

الوقت

# FINANCIAL TIMES

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Under threat from  
cost cutters everywhere  
Andrew Adonis, Page 10

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World Business Newspaper WEDNESDAY JULY 3 1996

## Crédit Lyonnais aims to securitise FF40bn of loans

Crédit Lyonnais, the state-owned French bank, is to announce details of a FF40bn (\$7.6bn) securitisation issue designed to increase its financial flexibility at a time when it is facing the prospect of substantial losses. The issue will be the largest securitisation carried out on the French market and represents an ambitious expansion in the use of the technique. Page 13

**US call for regulation reforms** Congress should give US regulators power to oversee foreign markets such as the London Metal Exchange, said the New York Mercantile Exchange, the LME's rival. The LME said the proposal, in the wake of the Sumitomo copper affair, was "unsurprising". Copper broker suspends staff. Page 4

**Japan to allocate \$155bn to sciences** Japan is to allocate ¥17,000bn (\$155bn) to science and technology over the next five years, in an attempt to overcome the reputation of its people as great developers of other people's ideas but poor innovators. Page 12; Money thrown at research. Page 5

**Blow to EU fishing industry** The European Union's fishing industry suffered a heavy blow when the European Commission halved this year's quotas for herring fishing in the North Sea to avoid a collapse of the stock. Page 2

**Cuban hotels deal agreed** A Canadian entrepreneur is undertaking a \$400m joint venture to build 11 tourist hotels in Cuba in the island's biggest foreign investment deal since the US introduced measures in March to discourage foreign business. Page 12

**US appeal over internet indecency** The US Justice Department has formally appealed to the Supreme Court over a decision by a special federal court panel in Philadelphia that blocked a new law against distribution to minors of indecent material over computer networks.

**Boeing moves into executive jets** Boeing and General Electric, both of the US, launched a joint venture to build executive jets. Page 13

**Profit expected at Lloyd's** Lloyd's of London will next week mark the end of five loss-making years at the insurance market by reporting a £1.8bn (\$1.8bn) profit for the 1995 account, according to estimates. Page 7

**Israel budget cuts agreed** Israel's government approved sweeping budget cuts, without agreeing on which areas to target. Page 4

**Thai bank governor quits** Vijit Supinit, the governor of Thailand's central bank, has resigned following sharp public criticism of his role in a series of financial scandals. Page 12; Fall from grace. Page 5

**Further arrest in Arizona 'bomb plot'** US federal authorities announced another arrest, making the total 12, in the alleged paramilitary plot to bomb government buildings in Arizona. Page 6

**Seoul targets trade deficit** South Korea's president Kim Young-sam called for a halt to overseas holidays and consumer spending on imported luxury products in an effort to cut the country's trade deficit. Page 5

**SmithKline Beecham, the UK drugs company, is to be paid \$100m over the next five years by two other drugs companies for a genetic database it built with its US partner. Page 13**

**Bering Asset Management, one of the biggest foreign investors in South African shares, is considering suspending shares dealing through South Africa-based Nedcor Securities. Page 13**

**Vietnam's Communist party is to open its foreign investment law in October but opportunities for foreigners could diminish. Page 4; Editorial Comment, Page 11.**

**Klaus reappointed as Czech PM** Václav Klaus was reappointed prime minister of the Czech Republic and submitted a list of proposed cabinet members to president Václav Havel. Page 3

**UK upbeat about Saudi relations** UK foreign minister Malcolm Rifkind had talks in Saudi Arabia and said trade relations had not been affected by the presence of Saudi dissident Mohammed al-Masari in Britain. Page 4

**Wimbledon: Top men's seed Pete Sampras will play his quarter-final against Richard Krajicek of the Netherlands who yesterday defeated Germany's Michael Stich, the tenth seed, in the women's event, Germany's Steffi Graf overwhelmed former finalist Jana Novotna and now faces Japanese Kimiko Date in the semi-finals. The other semi is between fourth-seeded Arantxa Sanchez Vicario and Meredith McGrath of the US.**

## Radical restructuring designed to cut operating costs by \$551m a year

# Big shake-up at Credit Suisse

By William Hall in Zurich and Nick Denton in London

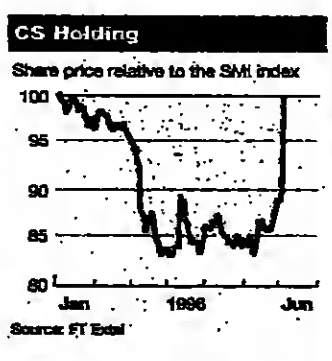
CS Holding, one of the world's largest financial services groups, has unveiled a radical restructuring plan aimed at improving its lacklustre earnings in recent years.

The group, which is based on the Credit Suisse commercial bank in Switzerland and the CS First Boston investment bank in New York and London, said its operations would be concentrated into four core businesses cutting 5,000 jobs - the divestment of industrial activities and an extraordinary charge of \$1.1bn (\$900m). The group hopes to save about \$551m in annual operating costs.

Mr Rainer Gut, CS chairman, said the restructuring would change the group from a "Swiss bank with international activities to an international financial institution with headquarters and certain core businesses in Switzerland".

Mr Lukas Mühleemann, chief executive of Swiss Reinsurance, has been appointed group chief executive. Mr Josef Ackermann has resigned as chief executive of the Credit Suisse bank because of "differing views", the group said. CS Holding shares, which have trailed the Swiss market for much of this year, jumped \$F14.5 to \$F134.5 and led the SMI index of leading Swiss shares to a record high.

However, the two leading international credit rating agencies, Moody's Investors Service and Standard & Poor's, put Credit Suisse on credit watch, indicating that a reduction of its ratings was being considered.

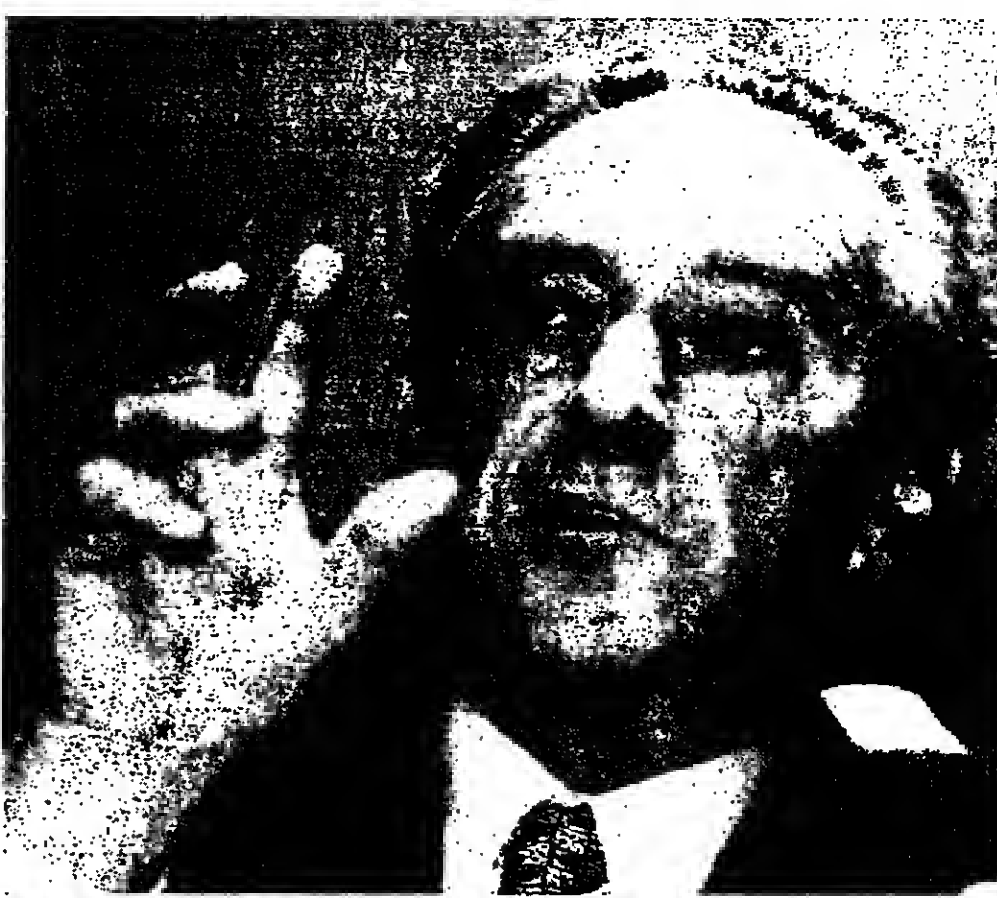


Special reports Page 15  
and analysis Page 12  
World stock markets Page 30

The announcement comes less than three months after the 64-year-old Mr Gut made an abortive proposal to merge his group with the Union Bank of Switzerland.

The four core activities that the group, which will be renamed Credit Suisse Group, will concentrate on are: Swiss domestic banking, corporate and investment banking worldwide, private banking and institutional asset management. CS officials said yesterday that it would probably dispose of its 44.9 per cent stake in the Electrowatt electric power generation and industrial controls subsidiary.

Credit Suisse has been slower than its Swiss rivals to cut back its unprofitable domestic retail division, and most of the \$F1.1bn provision will cover this. Swiss retail banking, which operates under three brand names, will be consolidated under the Credit



Rainer Gut: vision of restructured group as an international financial institution

Swiss Volkbank name and about 2,500 of the 5,000 job cuts worldwide will be made in the Swiss retail network.

The group expects the job cuts to take place over the next two to three years, largely through normal staff turnover. By eliminat-

ing overlapping bank branches CS expects to cut its Swiss network from 376 outlets to about 250.

The international investment banking business of CS First Boston would be merged with the international corporate and

Swiss investment business of Credit Suisse. The enlarged Credit Suisse First Boston would have an equity capital of about \$5.5bn and rank as the largest corporate and investment

Continued on Page 12

## Russian security chief urges visa clampdown

By John Thornhill and Christa Freeland in Moscow

Mr Alexander Lebed, Russia's newly-appointed national security chief, yesterday seized the political centre stage on the eve of presidential elections by calling for tougher visa requirements for foreigners and a fresh crackdown on government corruption.

The speech was part of President Boris Yeltsin's attempt to highlight his nationalist credentials and fight off the challenge of communist rival, Mr Gennady Zyuganov, in today's decisive presidential poll.

For the first time in Russia's history, its 100m registered voters will elect a Kremlin leader after a fierce contest in which Mr Yeltsin has promised to pursue economic reform while Mr Zyuganov has pledged to strengthen government control over the

economy and improve the social welfare system.

Mr Yeltsin, whose re-election prospects have been clouded by illness and an abrupt disappearance from public campaigning, was reported to be working from his country dacha.

The announcement of Mr Lebed's tough law-and-order programme was designed to emphasise his prominent role he would play in a future Yeltsin administration. Mr Yeltsin brought the former paratrooper into his administration after Mr Lebed won 15 per cent of the vote in the first round of the elections.

Mr Lebed, who outlined plans to overhaul the armed forces, crackdown on crime and corruption, and secure Russia's borders by tightening visa requirements

and psychological concerns. Mr Zyuganov, who trailed the president by 3 percentage points in the first round of voting, also adopted a low profile yesterday, withdrawing from a press conference for fear of breaking the electoral law which prevented campaigning the day before the poll.

But he still appears confident he can steal victory if Mr Yeltsin's unenthusiastic constituency fail to make it to the polls today

and wavering voters balk at electing an ailing 65-year-old man who has suffered two heart attacks in the past year. Analysts believe voter turnout could be the decisive factor in today's ballot, predicting a comfortable Yeltsin victory if more than 60 per cent of electors make it to the polls, but warning that the president's career could be in jeopardy if fewer Russians muster the energy for a second vote.

Power brokers at the bedside; Observer, Page 11

Continued on Page 12  
Lex, Page 12

## MasterCard steps up credit battle with US curb on rivals

By Motoko Fitch in London

MasterCard International has intensified the global battle between credit card issuers by restricting its member banks in the US from issuing rival cards such as American Express or Dean Witter Discover.

Following a meeting of MasterCard's global board of directors in London over the weekend, the US board, consisting of 24 representatives from its member banks, decided that "members that choose not to issue competing card programmes may not participate in MasterCard within the US region".

The policy move, which follows last month's announcement by American Express of an international expansion programme, aligns MasterCard with Visa, a rival payment card organisation. Visa has a by-law in the US banning member banks from issuing all rival cards except MasterCard, and MasterCard's policy would match this.

Until now, American Express

has issued its own cards through a proprietary distribution channel. However, earlier this year it said it wanted to issue cards through banks. It has established distribution deals with banks in Brazil, Greece, Israel, Turkey, Portugal, Venezuela, South Korea and South Africa.

Visa tried to restrict its European member banks from issuing rival cards, but decided to drop the plans after Mr Karol Van Miert, European competition commissioner, warned that it could "not accept" such a move.

MasterCard, which has 13,300 members in the US, said yesterday it had decided "support for the MasterCard brand would be diminished if its members participated in competing programmes such as American Express".

The US Department of Justice said it would be "looking at competitive issues involving the prohibition of certain joint ventures in the credit card market", although it declined to say which companies or brands it was investigating.

Mr Jon Linn, vice-chairman of American Express, said: "I think this move by MasterCard is frankly arrogant. It looks like MasterCard's reaction to our new strategy."

He said American Express had already been approached by 50 US banks interested in issuing the cards. "We would like every bank to have the right of choice and we think this move is downright anti-competitive."

In the US, Visa commands 49.9 per cent of the credit card market while MasterCard holds 27.1 per cent and American Express, 15.4 per cent. Last year Visa held 54 per cent of the global credit card market in terms of transaction volumes. MasterCard had 31 per cent and American Express 10 per cent.

Mr Mark van Wuse, secretary-general of Europay International, a payment card membership organisation which runs the MasterCard brand in Europe, said: "We have said from the beginning that we do not intend to impose such a ban in Europe."

STOCK MARKET INDICES		GOLD	
New York: Dow Jones Ind. Av.	5,716.58 (-13.90)	New York: Comex	338.33 (382.7)
NASDAQ Composite	1,185.01 (-2.44)	London: Gold	338.75 (382.1)
Europe and Far East			
FTSE 100	2,111.88 (-6.98)		
DAX	2,572.28 (+8.25)		
Nikkei	22,347.97 (+107.52)		
US LIBOR RATES		DOLLAR	
3-month	5.75%	New York: Exchange	1.5504
6-month	5.75%	London	1.5508
9-month	5.75%	Frankfurt	1.5512
12-month	5.75%	Paris	1.5516
18-month	5.75%	Madrid	1.5520
24-month	5.75%	Rome	1.5524
30-month	5.75%	Berlin	1.5528
36-month	5.75%	Stockholm	1.5532
42-month	5.75%	Oslo	1.5536
48-month	5.75%	Copenhagen	1.5540
54-month	5.75%	Helsinki	1.5544
60-month	5.75%	Tokyo	1.5548
OTHER RATES		STERLING	
US 3-mo Interbank	5.75%	London	2.3762 (2,370)
US 10 yr Govt	6.75%	Tokyo	1.9825
France 10 yr Govt	6.75%		
Germany 10 yr Govt	6.75%		
Japan 10 yr Govt	6.75%		
Italy 10 yr Govt	6.75%		
Spain 10 yr Govt	6.75%		
UK 10 yr Govt	6.75%		
NORTH SEA OIL (August)			
Brent	\$18.455		
Dated	\$18.455		

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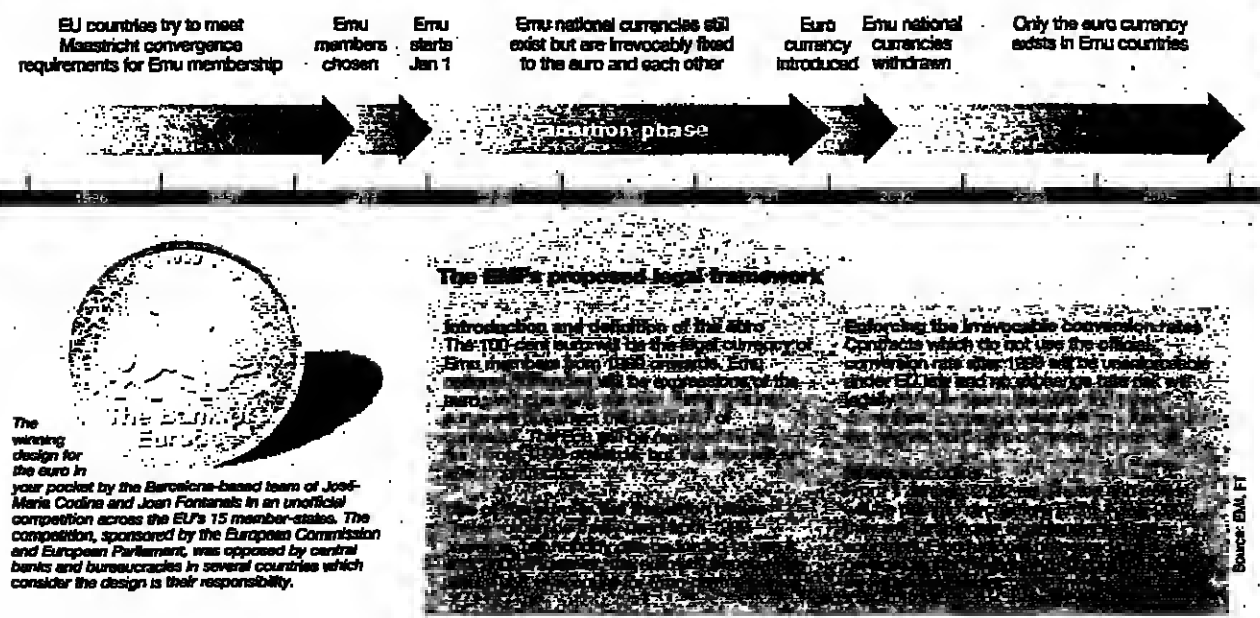
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NEWS: EUROPE

European economic and monetary union: timetable for change



EU lawyers to discuss how to beat speculators on road to single currency  
**Quest for an Emu without tears**

As the markets mull the outlook for European monetary union, a group of law officials will gather in Brussels today for a secretive meeting.

Representatives from the European Commission, European Monetary Institute and European Union governments will be working out details of the legal framework for Emu.

With the EMU and Commission having both recently produced draft legal frameworks, many of the key issues have been decided. However, one small detail could generate some strong debate today - the question of how far the law can be used to fight currency speculation in the transition phase in which national currencies and the euro co-exist.

The EMU has proposed that contracts which do not respect the official exchange rates should be unenforceable under EU law. It believes this is necessary to make Emu more credible. However, the European Commission - which is ultimately responsible for creating the new legislation - wants to take a slightly softer line.

The debate over the legal language highlights a broader fear about whether currency turmoil could threaten Emu - and whether policy makers can do anything to combat it.

As one banker who has recently been in discussion with the Commission about the issue says: "The fear of market speculation has become a real obsession. The Commission and EMU are casting around for things to fight it."

Just how far this fear is justified is an issue of considerable debate in the markets. On the one hand, the currency markets have been calm in recent months. And with some market players having been burnt by failed attempts to weaken the French franc in recent years, most traders insist there is little stomach for speculation at the moment.

However, as Emu approaches, many admit there are likely to be tensions emerging, not only around the currencies which might be left outside Emu - but also for the currencies which are potentially members.

The EMU has voiced concerns about the period when the single currency finally replaces national currencies in the Emu "area" in 2002. Although the Euro notes and coins will be introduced from January 1 2002, national notes and coins will still circulate until July 2002. To clarify this in legal and practical terms, the EMU is suggesting that this period should be shortened.

However, it is at the earlier end of the time spectrum, around 1999, that the ambiguities create the dangers for currency speculation.

According to the current timetable, the members of Emu are due to be announced in mid-1998. However, Emu itself - and the irrevocably fixed exchange rates - will not start until 1999.

Some market players believe this intervening period could trigger considerable market volatility. For if market traders believe that the currencies will be fixed in 1999 at rates which differ from the rates in force in mid-1998, they will bet on different exchange rates in their dealings.

In legal terms there is little that the EMU or Commission could do to combat this because the fixed exchange rates do not legally start until 1999. However, some policy makers are already casting around for other solutions.

The EMU wants to discourage this by insisting that contracts which do not respect the official rates are unenforceable. However, banks themselves remain deeply split over how effective these legal tools might be.

Some suspect that they are likely to be all but irrelevant, since there will be relatively little room for speculation. But others warn that legal tools would simply drive trade abroad, not least because it is unlikely that EU law would be fully recognised in other markets such as New York.

But either way, most bankers - and many policy makers as well - suspect that if market speculation does emerge, it is likely to be a symptom, rather than the cause, of broader problems.

As one banker says: "The only thing that will stop market speculation will be belief that Emu is thoroughly credible in political and economic terms. That is far more important than any of the legal stuff."

During this period, national notes and coins will remain in full circulation. But since the different national notes will only be separate expressions of the same currency - the euro - they will be freely convertible with each other at fixed, "irrevocable" exchange rates.

In theory, this means that there will be no more room for currency speculation. In practice, however, the crucial question will be whether dealers will be prepared to bet that the supposedly "irrevocable" exchange rates might be changed in the future, or Emu itself fall apart.

Mr Alexandre Lamfalussy, president of the EMU, for example, has suggested that to avoid speculation the future currency rates should be pre-announced when EMU membership is announced in mid-1998.

The idea is viewed with caution in the Commission. However, it has been welcomed by some market players - although they warn it would be effective only if central banks were prepared to intervene.

As Mr Avinash Persaud, head of currency research at the US bank JP Morgan in London, says: "I am already telling my clients that Emu could start in the middle of 1999."

However, the other ambiguous area, which has triggered the current legal debate, concerns the transition period between 1999 and 2002.

**Gillian Tett on how the law might be used to fight currency speculation in the transition**

As one banker who has recently been in discussion with the Commission about the issue says: "The fear of market speculation has become a real obsession. The Commission and EMU are casting around for things to fight it."

**German government contracts deal opposed**

German industrialists have displayed their political muscle by trying to thwart Bonn's attempt to settle a row with the US over public sector contracts. The Federation of German Industry (BDI) opposes giving companies recourse to the courts if they are unhappy about the way contracts are awarded. The US wants American companies to be able to appeal over such contracts.

The BDI said it was determined to ensure that companies which had misgivings about the way contracts for power stations and other larger state projects were awarded should not be allowed to go to court, where decisions took too long and held up the tendering process.

The row centres on complaints by Washington that General Electric and Westinghouse were treated unfairly in their unsuccessful bids for power stations in eastern Germany. The US has demanded that Germany introduce legislation to allow recourse to the courts in such cases.

The BDI used its influence to ensure that Chancellor Helmut Kohl's cabinet postponed a final discussion last week about the legal changes needed to ensure that companies such as General Electric could seek legal redress.

A BDI official said companies should use a new arbitration procedure under the supervision of Germany's cartel authorities which has been implemented during the last two years and could reach quicker decisions. But US officials in Bonn said General Electric and Westinghouse had used these procedures but were not satisfied with them. "We have been patient for a number of years, giving this situation a chance to work," a US official said, "but it has not."

The BDI's resistance throws doubt on whether the US and Germany can reach final agreement on a problem which has been troubling their relations for several years.

Ms Charlene Barshefsky, acting US trade representative, said earlier this week that the US would give Germany until September 30 to find a solution to the problem.

US officials said the cabinet had discussed draft changes to the law on public sector con-

tracts at its meeting on May 22, but that a final decision last week's cabinet session had been postponed because of opposition from sections of Mr Kohl's ruling Christian Democratic Union, who fear that German companies will suffer as a result of the changes.

But the US officials said Mr Kohl's government had indicated it was prepared to institute special fast-track court procedures, which would require a decision within 30 days. Those proposals, once submitted by the government, would be able to overcome parliamentary and other opposition, the US officials said, adding that access to the courts was also required under European Union guidelines.

"What the people at the BDI are suggesting is not a solution from the EU point of view, nor from our point of view," a US official said. "Something short of access to the courts would mean that we [the US and Germany] would be back in conflict." The BDI spokesman acknowledged that EU guidelines required legal protection for companies dissatisfied with tenders.

**Heavy blow for EU fishermen**

The European Union's fishing industry suffered another heavy blow yesterday when the European Commission halved this year's quotas for herring fishing in the North Sea to avoid a collapse of the stock.

The emergency measure comes only weeks after the Commission warned member states they would have to cut fishing fleets by up to 40 per cent from next year to safeguard other over-exploited stocks.

The Commission agreed with non-EU member Norway, with which it jointly manages North Sea stocks, to halve herring catches this year. The quota for the eight EU states fishing for herring will be cut from 313,000 to 156,000 tonnes in the North Sea, and from 120,000 to 60,000 tonnes in the Skagerrak and Kattegat waters around Denmark.

Officials said a "drastic reduction" was the only way to avert a freeze on herring fishing, after reports from the International Council for the Exploration of the Sea warned that mature herring stocks had fallen to half-minimum levels advised by scientists. Herring fishing was banned between 1977 and 1982, when stocks came close to being wiped out.

The Commission is also acting for the first time against industrial fishing fleets, operated mainly by Denmark. "Bycatches" of young herring by industrial trawlers, fishing largely for sprat for fishmeal, will be limited to 143,000 tonnes after previously being unrestricted.

Demands to reduce fishing fleets to protect stocks are expected to provoke clashes between EU states and the Commission in coming months, as the precise cut-backs each state must make are negotiated.

Mrs Emma Bonino, the fisheries commissioner calling for the cuts, has been the target of hate mail from fishing communities. But yesterday's measures were reluctantly welcomed by government officials in the UK, one of her sternest critics.

The UK faces a halving in its herring quota to 24,640 tonnes. "If cuts of this magnitude are not made, we face the complete closure of the fishery next year," said a spokesman.

fallen to half-minimum levels advised by scientists. Herring fishing was banned between 1977 and 1982, when stocks came close to being wiped out.

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**Bildt visits new Bosnian Serb leader**

Peace envoy keen to find out if Mrs Plavsic's takeover from Karadzic is genuine

By Laura Silber and Bruce Clark

Mr Carl Bildt, the peace envoy to Bosnia, yesterday called on Mrs Biljana Plavsic, the Serb nationalist politician, in the hope of winning assurances that her takeover of power from Mr Radovan Karadzic, an indicted war criminal, was genuine.

While the meeting itself - in the Bosnian Serb "capital" of Pale - amounted to a cautious gesture of faith in Mrs Plavsic, aides to Mr Bildt said he would watch closely to see who wielded real power in the mountain stronghold.

If Mr Karadzic, who has gone through the motions of transferring power to Mrs Plavsic, continues to pull the strings, the Swedish envoy will have no choice but to call for the reimposition of sanctions against the Serbs.

But Mr Bildt's team is understood to be acutely conscious of the drawbacks of this option. It fears that the reimposition of punitive measures would amount to an admission that there is no early prospect of reintegrating Bosnia. This would render almost pointless the pan-Bosnian elections scheduled for mid-September.

Mr Evgenin Primakov, the Russian foreign minister, pointedly reminded his western counterparts at last week's Lyons summit that the system of UN sanctions in ex-Yugoslavia is supposed to lapse 10 days after free and fair elections.

He successfully demanded this point be reaffirmed in the Lyons communiqué. However western officials have balked at Russia's claim that the impending lapse of the UN sanctions regime makes all talk of fresh punishment irrelevant.

The US and its European allies could impose an entirely new package of punitive measures, even if they were not endorsed by the UN as a whole, they argue. It is also possible that the elections will be held as planned, and then declared to have been less than free and fair in the Serb minority state.

British officials have argued strongly that a set of possible sanctions against the Bosnian Serbs - including economic, political and cultural isolation - should be held in readiness to be imposed at any moment.

But they are equally adamant that punitive measures should not initially be applied to Serbia proper, as long as there is some hope of Belgrade playing a constructive role.

"We are pleased with what Bildt has achieved so far, but it does not go far enough," said one British official, referring to the Swedish envoy's efforts to sideline Mr Karadzic.

Among US officials, the tone is stronger. "Bildt has been burned twice, and this time Western governments must take action," said one.

Meanwhile the tough stance adopted by Moscow at the Lyons summit has reminded western government that Russia could again become a wild card in Bosnian diplomacy, regardless of who wins today's election. General Alexander

EUROPEAN NEWS DIGEST

**Court rules on EU job barriers**

A German musician whose request to join the Athens opera was turned down on the grounds of nationality has had his complaint upheld in the European Court of Justice.

The judgment reinforces the principle of freedom of movement of workers inside the EU to the public sector, and covered similar complaints from the European Commission about Greek barriers to employment in the electricity, gas, transport, teaching and communications sectors.

The Court also found that the Belgian government operated barriers to foreigners seeking jobs in the gas, electricity and water industries. It ruled that the Luxembourg government was restricting access to jobs in the area of public utilities, scientific research, communications and the public health sector.

The rulings mean that Belgium, Greece and Luxembourg must end discrimination on the basis of nationality and remove barriers preventing workers from other EU member states from competing for jobs in their public sectors.

The Court said restrictions on foreigners could only be justified where the work related directly to the exercise of public authority. Belgium, Greece, and Luxembourg were all asked to pay costs.

Lionel Barber, Brussels

**Probe into Crédit Foncier aid**

The European Commission is today to launch an investigation under state aid rules into the French government's plans to rescue Crédit Foncier de France, the troubled property lender.

The French government has said it would guarantee CFF's debt after the lender announced a loss of FF10.82bn (\$2.32bn), largely as provision for bad investments in real estate.

The loss followed the ending last year of Crédit Foncier's monopoly on government-backed mortgages in the French government's guarantee of FF280bn of bonds, to ensure they do not contravene state aid rules. The French authorities will also be asked to disclose the size of any subsidies paid to the bank. The government has given CFF until July 31 to present its restructuring plan. Voting on a plan presented by minority shareholders to CFF's shareholder meeting on Friday to split the bank into two units was delayed after pressure from larger shareholders.

Neil Buckley, Brussels

The European Commission yesterday approved acquisition by Caisse Nationale du Crédit Agricole of 51 per cent of Banque Indostuez, a unit of Compagnie de Suez, and clearing Bayerwerk to acquire 25 per cent of Germany's Südkaldergas Gommern, currently owned by Gaz de France.

Neil Buckley

**Greenpeace manager dismissed**

Greenpeace, the international environmental organisation, suffered a setback to its campaign against Danish industrial fishing of tobs off the east coast of Scotland, when Greenpeace Denmark dismissed its manager, Mr Mats Abrahamsson, on Monday night.

Tobis are used for production of fishmeal and fish oil, an industry dominated by the Danes in northern Europe. Over the past 10 days a ship sent by Greenpeace International to the Wee Bank, about 30km off the east coast of Scotland, has tried to sabotage fishing by Danish trawlers on the grounds that industrial fishing destroys the region's food chain.

Mr Abrahamsson, a Swede, supported the action against the Danish trawlers, but the Danish organisation's campaign manager, Mr Klaus Iversen, was critical of the campaign and the means used against the trawlers. At a five-hour meeting on Monday evening, attended by a senior representative of Greenpeace International, the Danish organisation's governing board fired Mr Abrahamsson.

Hilary Barnes, Copenhagen

**Ukraine bank cuts discount rate**

Ukraine's central bank lowered its yearly discount rate 10 points yesterday to 40 per cent, as its inflationary outlook improves during the summer months.

The government's stabilisation efforts have managed to reduce the monthly inflation rate from 9.4 per cent in January to 0.7 per cent in May, the lowest rate since Ukraine gained independence in 1991.

The bank's interest rate action is intended to revive stagnant output and lessen liquidity problems at commercial banks, which have not fully subscribed to government bonds due to cover 33 per cent of the fiscal deficit this year.

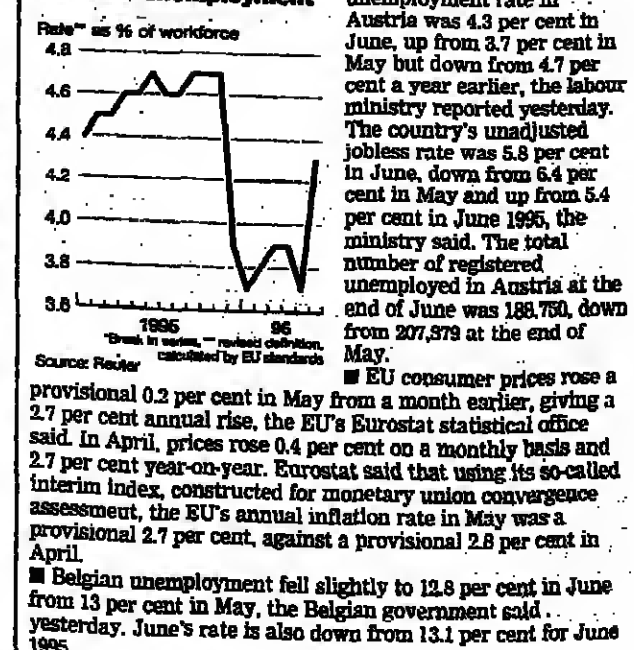
Meanwhile, Mr Roman Shepel, Ukraine's chief contact with western financial agencies, was demoted yesterday from deputy prime minister to head of a new development agency.

His departure from the cabinet is part of an ongoing reshuffle. The move reduces the number of deputy prime ministers, as mandated in the constitution. But Kuchma appears eager to reassure the International Monetary Fund and the World Bank that economic reformers will continue to play a leading role in negotiating loans.

Matthew Kaminski, Kiev

**ECONOMIC WATCH**

**Austrian unemployment rises**



JADICO 1996





Vaclav Klaus: was reappointed as prime minister yesterday

## Prime Minister Klaus chooses cabinet to rule with minority End of Czech uncertainty

By Vincent Boland in Prague

Mr Vaclav Klaus was reappointed prime minister of the Czech Republic yesterday for a second term, a key step in his attempt to put a new minority government in place following an inconclusive general election last month.

Mr Klaus also submitted a list of proposed cabinet members to President Vaclav Havel, who is expected to swear them in tomorrow. Mr Klaus had earlier handed to the president the resignation of his outgoing government, which lost its parliamentary majority in the election last month.

The prime minister's Civic Democratic party (ODS) has

formed a new coalition with the Christian Democrats (KDU) and the Civic Democratic Alliance (ODA), its partners in the former government. They hammered out the substance of a governing programme in talks over the past month, and Mr Klaus said yesterday he expected final agreement in about 10 days.

He said he should be able to present the programme to parliament "around July 16 or 17" and seek a vote of confidence. The new coalition, with 99 of parliament's 200 seats, needs the support of the main opposition Social Democrats (CSSD) to win the vote and to survive in office.

The four parties have sig-

nalled a willingness to compromise in order to secure that support, but it is not yet guaranteed.

Some of the CSSD's demands have already been met, including the election of its leader, Mr Milos Zeman, as chairman of parliament and of senior party officials to parliamentary committees.

Following his election last week Mr Zeman gave a further sign that the party's support would be forthcoming by making a conciliatory acceptance speech.

It is possible the CSSD would back the coalition in office for its full four-year term, although there is a widespread belief that a minority adminis-

tration will not survive that long. Within the new cabinet the ODS has retained its influence over financial policy and foreign affairs, but has been forced to surrender the large majority it enjoyed in the old cabinet.

It will take eight of the 16 posts, including that of prime minister, with the KDU and the ODA taking four each.

The list of proposed ministers contains six new faces but only one new portfolio, a ministry for regional development, while the privatisation and economy ministries are abolished. Mr Havel has already indicated that he does not see any barrier to approving the list of ministers.

## Irish crime puts EU in shade

By John Murray Brown in Dublin

The Irish government yesterday launched a drive against organised crime, using the opening day of business of Dublin's presidency of the European Union to highlight the need for co-operation in tackling the problem of drug trafficking.

The package of measures, approved by the cabinet last night, is a direct response to public anger at the killing of Veronica Guerin, a crime reporter shot in her car last Friday, allegedly by gangland elements.

The government reform package is expected to include changes to the bail law and police detention periods, the curtailing of the right to silence, and more resources to improve the police and prison systems. Adoption of an opposition Fianna Fail proposal giving courts the power to freeze assets of suspected drug barons is also thought to be part of the package.

In addition, the government is said to be considering the appointment of a special prosecutor, similar to what happened in Italy to combat the Mafia.

Ireland's drugs problem is arguably no worse than in other European states. But it has been allowed to flourish in a climate of lawlessness, which many politicians believe is a direct spillover from Northern Ireland's 26 years of paramilitary violence.

Irish police said yesterday former paramilitaries may have been involved in what is believed to have been a contract killing of Guerin. "Ireland didn't have a crime problem in the 1960s. But always when there are people using guns for a cause there will be those who use guns for their own ends," said Mr Joe Costello, a Labour party MP in Dublin.

Without a forthright policy response from the government, some deputies worry the republican movement may seek to exploit the situation for political gain. Already a paramilitary involvement is suspected in a number of vigilante beatings of drug pushers in Dublin's inner city.

Police were also last night investigating a possible threatening telephone call to Ms. Rolston Shortall, a Labour party MP involved in campaigning against drug dealers.

## Brussels warning over French TV's health kick

By Diane Summers in London and Andrew Jack in Paris

France has been given 40 working days by the European Commission to lift restrictions on the TV broadcasting of sporting events where hearings advertising alcoholic drinks and tobacco can be clearly seen by viewers.

If the French government fails to comply, it faces being taken to the European Court of Justice, the Commission warned yesterday. The Commission is arguing that the restrictions on TV broadcasts under France's Loi Evin violate EU rules on the freedom to provide services. The Commission has sent a "reasoned opinion" - the second stage of formal infringe-

ment proceedings - to France. The Commission said it was the first time a case of this kind had reached this stage.

The Commission's action was sparked by the banning of a screening by the French TV channel, TF1, of a European football match in March 1995. Since then, other sporting events have also been banned on the grounds that alcohol adverts were visible.

The objective of protecting public health was fully supported, the Commission said, but "in this instance" it considered that "the measures taken to interpret and apply the relevant French legislation are not proportional to this objective".

Mr Philippe Boucher, director of the French national committee against excessive smok-

ing, said yesterday that the decision by Brussels would lead to new efforts to call for a complete ban on alcohol and tobacco advertising at sports events.

"This could backfire against the advertisers," he said. "The fact that there is this type of advertising at sports events at

all is more shocking than the fact that it is broadcast. This will put pressure on lobbying of international sports organisations to introduce a total ban." He pointed out that many football clubs were currently supported by public funding, which strengthened the argument for a ban in the

interests of public health. He said that the French legislation to ban alcohol and tobacco advertising in sports events was already periodically broken, and that the Brussels decision served simply to clarify the existing situation.

The CSA, the French audiovisual regulator, filed a com-

plaint with the public prosecutor last year after TF1 broadcast football games from other countries but with advertising it claimed was targeted to reach the French market.

However, since that time the CSA has changed its president, and has been less vocal on the subject.

## Greek PM leads party out of east

For a man once dismissed by party colleagues as "wimpish", Mr Costas Simitis, Greece's prime minister, showed unexpected determination in shouldering rivals for command of the governing Panhellenic Socialist Movement.

Moreover, Mr Simitis's election on Sunday as Pasok's chairman at a special congress shattered a popular Greek myth. The myth is that technocrats are useful to manage the economy and smooth out Greece's problems with the EU, but that only a charismatic personality can lead a political party.

One analyst said: "Pasok has signalled its re-invention as a European socialist party that can respond to what's happening in Greek society, rather than the concerns of the party leader and his hangers-on."

In an unprecedented display of openness by Pasok, state television broadcast the party congress live. Greek viewers watched a dramatic leadership battle in a smoke-filled hall at the Athens Olympic stadium, including a desperate appeal for support by Mr Simitis's populist rival, Mr Akis Tsouchatzopoulos, the public administration minister.

Under the late Andreas Papandreu, who founded Pasok and remained its leader until his death last week, party congresses were as secretive as in communist eastern Europe. Central committee votes were frequently rigged and no challenge to Papandreu's supremacy was permitted. Pasok members say, however, Mr Simitis's victory was as much the result of cultivating support for his moderate pro-European policies among younger Socialist organisers around Greece as his performance at the congress.

Even before becoming prime minister, Mr Simitis had developed a network of supporters in local Pasok organisations which elected the 5,100 delegates to the congress.

To secure support from Pasok hardliners, Mr Simitis could point to an impeccably leftwing background. His father, a prominent lawyer, was a member of the communist-led "Mountain Government" during Greece's civil war in the 1940s and several close advisers started their political careers as members of a Maoist communist splinter group that attracted Greek intellectuals in the 1970s.

The challenge for Mr Simitis is not just to keep control of Pasok but to implement policies that conflict with much that Mr Papandreu stood for, including cuts in government

spending, reductions in the bloated public sector payroll and a more flexible foreign policy, especially over Turkey.

Since taking over as prime minister from Mr Papandreu in January, Mr Simitis has been criticised for accepting US mediation to defuse a crisis with Turkey and for giving mixed signals to investors.

As party leader, Mr Simitis finally controls the levers of power. He will decide who becomes a Socialist parliamentary candidate in the general election next year. Now that his supporters dominate the 200-member central committee which will elect Pasok's new executive bureau later this week, Mr Simitis will be able to promote his reformist policies more effectively.

Thanks to strong backing at the congress from Mr George Papandreu, the education minister and former premier's eldest son, Mr Simitis can also claim a share in Mr Papandreu's heritage - which will exert a powerful pull on the Socialists for some time. On his first day as Pasok chairman, Mr Simitis made a point of going to the central Athens cemetery to lay flowers on Mr Papandreu's grave.

However, Pasok's populist wing, which gave Mr Tsouchatzopoulos 46 per cent of the vote, will find it hard to accept defeat. The populists are used to profiting from the pervasive patronage system and will try to undermine Mr Simitis unless he carries out a purge of Mr Tsouchatzopoulos's supporters in the party machine.

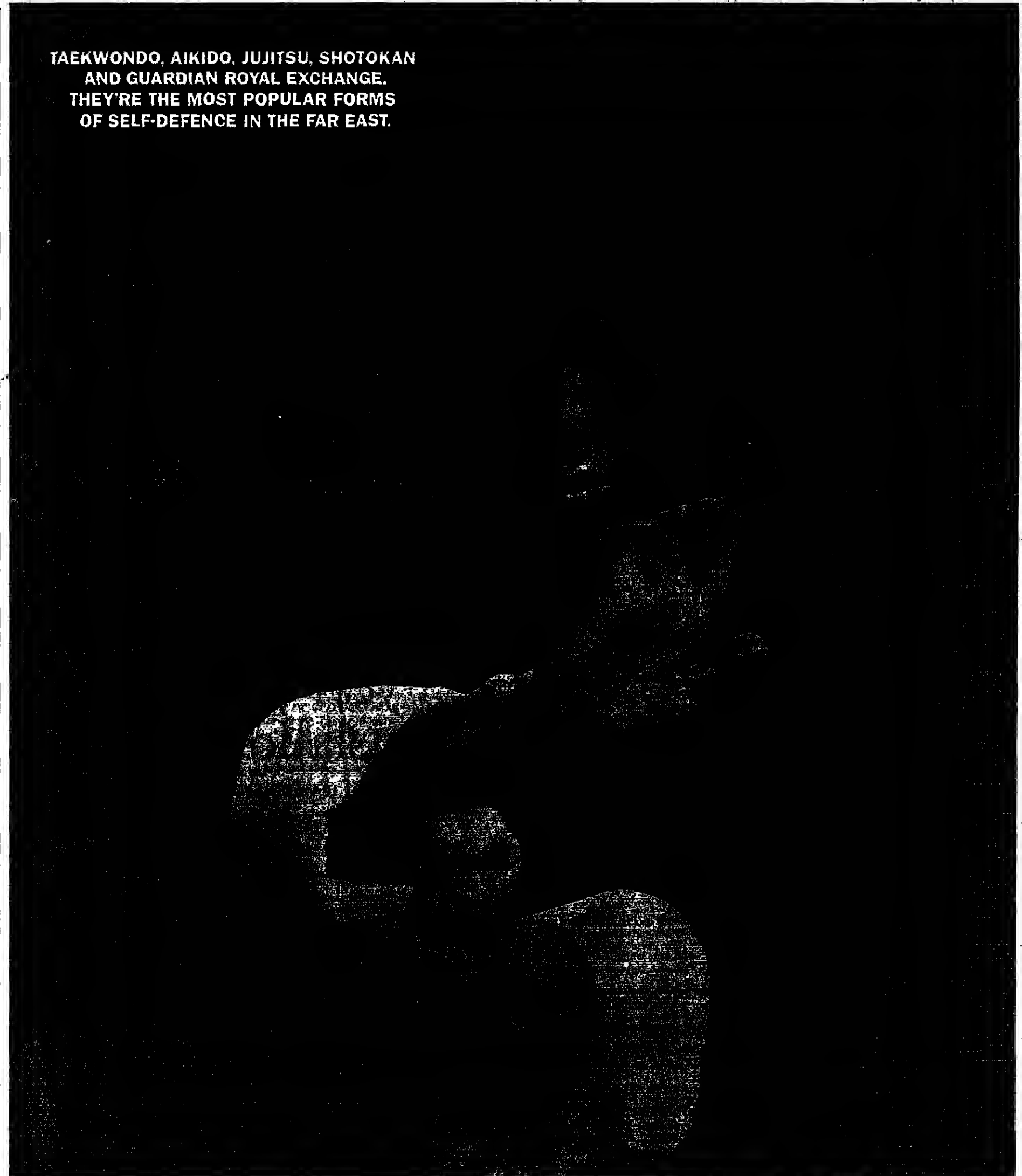
Analysts said fears of a split in Pasok seemed exaggerated, given Mr Simitis's high approval rating in opinion polls, which favour his chances of leading Pasok to a sweeping election victory next year against a weak conservative opposition. Government advisers say there are no immediate plans to sack populist cabinet ministers.

The main battleground will be the public sector, where employment has increased by more than 3 per cent in the past year as Mr Tsouchatzopoulos, responsible for both the civil service and local government, allowed his supporters to hand out jobs to Socialist voters in defiance of a government hiring freeze.

Mr Simitis's first task is to push through much-postponed legislation for spending cuts aimed at bringing down the government deficit by 1.5 percentage points of gross domestic product next year, in line with Greece's effort to meet the Maastricht targets for EU economic union.

Kerin Hope

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NEWS: INTERNATIONAL

Saudi dissident's presence in the UK 'irrelevant', claims foreign secretary

# Rifkind brushes aside Massaari affair

By Roulia Khalaf in Jeddah

Mr Malcolm Rifkind, the UK foreign secretary, claimed yesterday that the presence in Britain of Mr Mohammed al Massaari, the Saudi dissident, had become "irrelevant" in British-Saudi relations.

UK officials said the Saudis realised that the UK government had done all it could, albeit unsuccessfully, to deport Mr Massaari, who has been waging a fax campaign aimed at discrediting the Saudi government. They also realised that drumming up the issue had been counter-productive,

and had raised the dissident's profile in the international media.

British companies have claimed that Saudi irritation with Mr Massaari has led to discrimination against them. British businessmen had been looking to Mr Rifkind's trip to smooth recently strained relations with the kingdom.

After meeting Crown Prince Abdullah and Prince Saud Al Faisal, the foreign minister, Mr Rifkind said UK-Saudi trade and commercial relations were "extremely good" and had not been affected by Mr Massaari's presence in London.

The subject of the dissident was mentioned only once in discussions "very briefly and to dismiss it as a matter of irrelevance to British-Saudi relations," Mr Rifkind said.

He cited trade figures which show a healthy relationship. Exports to Saudi Arabia were up 9 per cent in 1995 and increased by 20 per cent in the first quarter of this year.

Officials said UK companies should wait to see if they had been included in the Saudi oil company Aramco's bidding lists in August, before insisting that the Saudis continue to

discriminate against British companies.

UK officials said the future of the Arab-Israeli peace process following the election in Israel of Mr Benjamin Netanyahu, the Likud hardliner, featured prominently in the foreign secretary's discussions with Crown Prince Abdullah.

Mr Rifkind said yesterday that much of what had been achieved in the last three years of the peace process was irreversible, but warned that some of it could be damaged.

UK officials said Mr Rifkind and the Crown Prince had

agreed that Arab states should allow time to see whether Mr Netanyahu followed through with his stated positions, rejecting the land-for-peace formula on which Arab-Israeli talks had been based.

Mr Rifkind said there "appears to be a lot of interest" from Saudi officials for a UK proposal for an international initiative to exclude from the 1951 UN convention on refugees asylum seekers who incite others to commit terrorist acts.

He added that the adoption of the UK proposal by the United Nations as a

supplement to the convention would require a definition of terrorism, which he believed could be agreed.

Mr Rifkind arrived in Saudi Arabia a few days after a truck bomb exploded at a US Air Force housing compound near Dhahran, killing 19 Americans. Security has been heightened throughout the kingdom and road blocks set up during the night. Mr Rifkind was confident Saudis were providing the necessary protection for British nationals. Britain has 3,500 workers in Dhahran, including 200 Royal Air Force personnel.

Israel takes first step of sweeping plans for fiscal restraint and privatisation

# Determined Netanyahu pushes through \$1.5bn budget cuts

By Hene Prusher in Jerusalem

Israel's new government yesterday approved plans to cut \$1.5bn (\$1.5bn) from its 1997 budget, part of prime minister Mr Benjamin Netanyahu's sweeping plans for fiscal restraint and privatisation. It also agreed to reduce the budget deficit as a percentage of gross domestic product to 1.5 per cent by the year 2001, from an estimated 2.8 per cent in 1997.

The ministers voted for the cuts without agreeing on which portions of the budget would be slashed, but the defence, education and social welfare sectors expect to be the targets of the biggest cuts. The pensions of career soldiers are also likely to be scaled back.

Mr Eli Yosef, finance ministry spokesman, said the issue of where cuts would be made would be addressed during two special finance sessions to be held early next week.

Mr Netanyahu is apparently determined to gain government approval of his economic plans before he leaves for the US next week,

enabling him to tout its details to US business leaders and financiers.

The prime minister has been eager to implement plans for trimming Israel's bloated current account deficit and for selling state-owned businesses to offset his headline political approach to Middle East peace.

After wresting power from Mr Shimon Peres in May, Mr Netanyahu inherited an economy with a current account balance of payments deficit that is forecast to widen to \$5bn this year from \$4bn in

1995. He also needs to try to curb an annual rate of inflation heading towards 15 per cent, against 8.1 per cent last year.

Mr Netanyahu's economic team is also facing new signs of an Israeli slowdown. The Bank of Israel said on Monday that its index of integrated indicators, a measure of overall economic health, declined in May to 0.7 per cent, its first retreat in almost two years.

Markets welcomed the decision to pare the deficit, as

shares that had been hovering quietly most of the day rose after the vote. The benchmark Mishkanim index of top 100 shares rose 0.60 per cent to 198.46 from 197.23.

Israeli workers and pensioners are not likely to swallow Mr Netanyahu's reforms so easily. Hundreds of thousands of public workers staged a one-hour strike on Monday to protest a planned sell-off of government assets. Bank and government offices, air and sea ports, and even Israeli Radio and El Al airlines closed for an hour as a warning against Mr Netanyahu's plans.

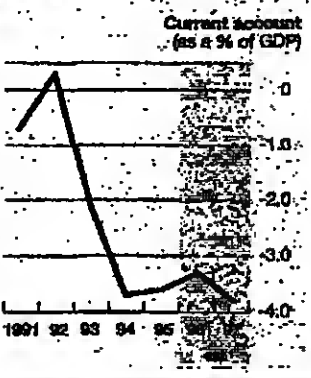
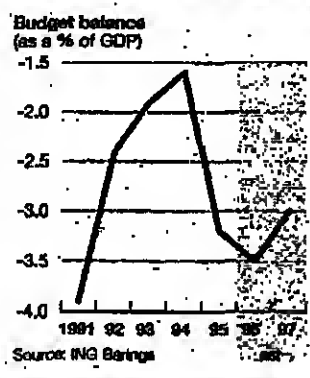
Mr Amir Peretz, head of Israel's umbrella labour organisation, the Histadrut, said, "To our dismay, we will have to go out and fight against these decisions, which will hit salaried workers and disadvantaged populations." But he stopped short of threatening more stoppages.

Mr Dan Meridor, the finance minister, defended the plan to curb the deficit, warning that steps needed to be taken now lest Israel face "more severe cuts" further down the road.



Benjamin Netanyahu (right) confers with Bank of Israel governor Jacob Frenkel before yesterday's cabinet meeting

### Israel: tackling the deficits



# Investors in Vietnam face stricter regime

By Jeremy Grant in Hanoi

Foreign investors who spent nervous months awaiting the outcome of Vietnam's Communist party congress before committing themselves to new projects were little the wiser yesterday, despite clarification of plans to plant Communist party cells into enterprises which have foreign investors.

Some changes are now expected in October, when the foreign investment law will be improved and there could be sweeping changes to top personnel in ministries in frequent contact with foreign businessmen.

But opportunities for foreigners could diminish after the congress pledged to beef up local industry and encourage a more selective approach to foreign investment.

Party officials at the meeting, which ended on Monday, stressed that foreigners were still welcome to invest. But a five-year plan said foreign money would be channelled towards areas "with advanced technology" and those that "have a high export ratio".

One aim is to attract foreign investors into strategic sectors where the Vietnamese lack capital, technology and expertise. Inflows have so far been tilted towards tourism, light industry and services at the expense of much-needed power and infrastructure.

Another is to push its lumbering state sector into import-substitution as a way of industrialising, and ensuring Vietnam is competitive enough to meet tariff reduction targets set for 2006, which it must meet under membership of the Asian Free Trade Area (Afta).

This could close off some sectors to foreigners. "There will be an increasing number of sectors officially closed to foreign enterprises or effectively closed," said Mr Chris Bruton, director for Thailand and Indochina at Bangkok-based Data-consult.

Mr Do Quoc Sam, minister for planning and investment, said the foreign investment law would be amended in Octo-

ber to ease licensing bottlenecks and improve access to finance, but gave few details. The government would work with foreign companies to identify strategic projects. "The selection is a two-way process," he said.

Although economists give Vietnam credit for prioritising large-scale investments, crucial guarantees - such as being able to mortgage land and property - are not yet in place.

"When you talk about large projects, there's no way to finance them. Very few people are going to be able to reach into their pockets and produce, say, \$300m just like that," said Mr Michael Soown, a lawyer with Russin & Vecchi in Ho Chi Minh City.

Meanwhile, all foreign joint ventures and wholly foreign-owned projects would have to allow the formation of Communist party cells in them within six months from the day the project started, according to Mr Nguyen Van Tu, president of the country's sole, state-controlled trade union.

"If they refuse (to allow them) we will insert people by ourselves," he said. "Right now there are very few party cells in foreign joint ventures. We need to have party cells in every one." He said their function would be to educate local employees on the party's work.

Their existence reflects an increased desire from the Communist party to see increased surveillance of foreign activity but are being seen by many businessmen as an irritant rather than a threat to operations.

Editorial Comment, Page 11

# India emerges as world centre for software

By Mark Nicholson in New Delhi

India's software industry grew rapidly in 1995-96, with turnover up 61 per cent to \$1.2bn, and similar growth is expected this year, according to the National Association of Software and Service Companies.

Exports, chiefly of software services, continued to outstrip the domestic market, rising 64 per cent to a record \$734m, a Nasscom study shows.

However, the local market increased turnover by a record 57 per cent last year to more than \$490m, helped by a steep cut in duties on imported software packages to 10 per cent in last year's budget.

The Nasscom figures show India is emerging as a leading world centre for software services, particularly to the US, which accounts for around 60 per cent of exports.

More than 100 of the top 500 US corporations now use on-

site software services from Indian companies, according to Mr Dewang Mehta, Nasscom's executive director.

Last year's growth compares with 45 per cent in the industry between 1991 and 1995. The sector employs 120,000 Indians in more than 700 companies, over 400 of which are exporters. It employed just 6,800 in 1985 and 56,000 in 1990.

India's software industry is distinctive in that export markets have eclipsed domestic

sales throughout the past six years as Indian-based companies have exploited an ability to match high quality with relatively low labour costs.

More than 60 per cent of services are offered at the user's base, but Nasscom says off-site software services are rising as more Indian groups lease high-speed data communication lines.

Mr Mehta said sustained export growth had continued despite average salaries in the

\$2.5bn by 2000, could double. Exports could receive a further fillip through Indian companies offering solutions to the "millennium bug", the problem facing thousands of financial service and other companies worldwide whose software is not equipped to deal with the arrival of the year 2000.

He said 73 Indian software companies were offering solutions to the problem, which Nasscom estimated could earn India up to \$1bn.

# US election year politics puts free trade legislation on hold

Nancy Dunne tracks the record of a reluctant Republican Congress

Since it became Republican-controlled in January last year, the US Congress has failed to pass any trade liberalisation measure President Bill Clinton has been willing to sign.

What has turned delay into indefinite hold-up is the fact that this is in an election year and politicians of both parties are uncomfortable pushing free trade when many Americans think imports are costing US jobs.

This has not been a factor in trade legislation the Congress has succeeded in passing - measures which have provided for sanctions against companies doing business with countries regarded as "outlaws", such as Cuba, Libya and Iran.

One of the most important hold-ups has been renewal of the Generalised System of Preferences, which provides about \$430m worth of duty-free access to goods from developing countries. Renewal of the programme was contained in a budget bill sent to President Clinton, but it was vetoed because it was attached to domestic budget measures deemed unacceptable by the White House.

The 20-year-old GSP programme is not controversial - few members know what it is - but support for it among congressmen is considered "broad and thin" by trade officials. Eighteen Republican senators wrote to Mr Robert Dole, when he was still Senate

leader, to warn that the lapse of the GSP was having "negative foreign policy implications". At the same time many small businessmen who rely on GSP inputs have suffered financial losses.

The House of Representatives has recently begun to move on trade matters. Last week it defeated by a surprisingly large 2-1 margin a measure which could have the effect of killing a long-sought deal with other ship-building countries in the Organisation for Economic Co-operation and Development to curb state subsidies to the industry. The Clinton administration is hoping the bill can be "fixed" in the Senate but the trade unions are lobbying hard against it.

The OECD's deadline was June 15. A Senate vote could come in mid-July, but it could be delayed until September.

Another bill in the Senate, pushed by Senator Bob Graham, a Florida Democrat, is designed to help US tomato growers, who have asked the International Trade Commission for temporary protection from imports of Mexican tomatoes. The bill would make it easier for the ITC to recommend protection.

Before he resigned his seat to campaign full-time for the presidency, Senator Dole tried, but failed, to move long-planned legislation creating a commission of judges which would oversee rulings by dispute settlement panels of the World Trade Organisation. The legislation was supposed to have made it possible for Congress to take the US out of the WTO if any three decisions adverse to the US were judged by the commission to be "arbitrary or capricious". The Clinton administration had promised to support the bill in exchange for Mr Dole's backing for the establishment of the

WTO as the successor to the General Agreement on Tariffs and Trade.

Meanwhile, trade officials have abandoned hope that Congress this year will give the president renewed "fast-track" trade negotiating authority that would allow the administration to negotiate Chilean accession to the North American Free Trade Agreement without Congress being able to amend the terms of the pact. The stalemate began over administration insistence that the pact include provisions on environment and labour, which Republicans opposed.

The US refused to go along with a WTO accord last year to liberalise financial services and balked at a deal on basic telecommunications in April. It has also failed even to table a negotiating offer in WTO talks on maritime services. Washington has argued, in all these cases, that its WTO partners' offers were inadequate. But other governments accuse the US of being unwilling to stand up to protectionist pressures from domestic producer lobbies in a presidential election year.

Lobbyists for greater trade liberalisation fear that the election in November may see the return of more protectionist congressmen as happened in the 1994 poll. They would replace many departing members who have long championed open trade initiatives but have grown weary of the bat-

tle.

INTERNATIONAL NEWS DIGEST

# KwaZulu result good for peace

Final election results issued yesterday for South Africa's most unstable province, KwaZulu-Natal, showed President Nelson Mandela's African National Congress winning the townships while bitter rivals Inkatha took the countryside in the local elections, both with strong majorities. Political analysts said the equilibrium was good news for peace. "It would have been disastrous for peace if there had been a complete rout of Inkatha," said Kiru Naidoo, a political scientist at the University of Durban-Westville. Election officers declared the final result of last Wednesday's poll after six days of vote counting. The Inkatha Freedom Party won 44.5 per cent of the vote to the ANC's 33 per cent. The ANC's share of the vote remained largely unchanged since the historic all-race national election of 1994, but Inkatha lost six percentage points to smaller parties.

Reuters, Pietermaritzburg

# Copper broker suspends staff

Rudolf Wolff, the London-based metals broker, said yesterday it had suspended three employees in its Tokyo office as part of an internal inquiry into the firm's dealings with Sumitomo Corporation in the copper market. The three staff, all Japanese, were suspended on full pay pending the completion of Wolff's investigation, which includes a review of back office procedures. "There are some elements of paperwork that we need to follow through," the broker said.

The inquiry began after regulators in the UK and US asked all companies which had dealings with Sumitomo to review their records in the wake of the Japanese company's dismissal of Mr Yasuo Hamanaka, its former chief copper trader. Wolff said its Tokyo operation, which employs 10 people, produced only 4 per cent of annual worldwide revenues of about \$46m, although Sumitomo accounted for a considerable portion of the Japanese business.

Clay Harris, London

# Capital penalty for dollar users

Sudan's government has threatened to execute Sudanese who use US dollars or other hard currency. Sudan fears the flight of much-needed hard currency, which it uses to pay \$1m a month to the International Monetary Fund and to purchase an estimated \$360m a year worth of oil. Police on Sunday arrested an undisclosed number of people suspected of dealing in hard currency, but their punishment was not immediately announced. Inflation is at 108 per cent, making the stable dollar increasingly more popular. The bank said the dollar was used to buy and lease real estate and for payment of hospital services.

AP, Khartoum

# Iraq poser for UN chief

United Nations chief Mr Boutros Boutros Ghali will have to overcome US objections to an Iraqi distribution plan for humanitarian supplies if an "oil-for-food" deal is to go ahead, diplomats and UN officials said yesterday. While legally Mr Boutros Ghali alone has to approve Baghdad's plan, the US and the other 14 Security Council members on a sanctions committee could block agreement of purchasing documents and contracts needed for each sale under the scheme.

Ms Madeleine Albright, US envoy to the UN, on Monday rejected the food distribution plan proposed last Thursday by Mr Abdul Amir al-Anbari, the Iraqi negotiator. She accused Baghdad of attempting to twist a purely humanitarian scheme, designed to provide ordinary Iraqis with food and medicine, by including such items as telephone-switching gear, computers and other equipment.

Reuters, Geneva

WORLD TRADE NEWS DIGEST

# Caricom fears deregulation

Leaders of the Caribbean Community (Caricom) meet today to speed up efforts to create a common market, amid concerns that the region's small economies are becoming increasingly uncompetitive because of deregulation in international trade.

The four-day meeting in Barbados will also consider the impact of the North America Free Trade Agreement on the region. Caricom is uncomfortable, too, with proposed changes to the Lomé Convention, a trade and aid treaty with the European Union which expires in 2000. Some Caricom governments fear that they will lose preferential markets for bananas and rum, and that their sugar sales will be reduced.

Officials say the creation of the common market is the only way the region can compete for markets. Caricom is made up of the English-speaking countries of the region, and Suriname, and has a market of 6m. However, some governments are worried that their economies could be damaged if their markets are opened fully to imports from more developed members of the community.

Caroline James, Barbados

# Attica enters fast ferry race

Attica Enterprises, a Greek ferry operator, has ordered two high-speed car ferries costing \$200m from Kvaerner Masa-Yards of Norway in response to growing competition on the Adriatic crossing. The Greek company already has two fast ferries in operation between Patras and Ancona, a route popular with both tourists and truck drivers.

In March, Minoan Lines, a Crete-based shipping company, ordered a \$102m fast ferry capable of 27 knots from Fosen MEK Verster of Norway for the Adriatic crossing. The new ferries will be built at Kvaerner's shipyard at Turku in Finland.

High-speed ferries, some with a single hull, others of catamaran design, are starting to make inroads into markets dominated by traditional ferries. Stena Line, the Swedish ferry group, is introducing them on routes on the Irish Sea and the English Channel.

Charles Batchelor, Transport Correspondent

Kyocera, the Japanese electronics and chip component maker, has launched a joint venture with a Chinese camera maker to manufacture and market cameras and other optical instruments in China. The new company, capitalised at \$19m, is expected to produce goods worth \$108m in the initial year.

Reuters, Tokyo

JAVICO 150



## Seoul to seek cut in import spending

By John Burton in Seoul

Mr Kim Young-sam, the South Korean president, yesterday urged a halt to overseas holidays and consumer spending on imported luxury products as part of a campaign to reduce the country's yawning trade deficit.

Mr Kim's remarks were in response to a new government estimate that the current account deficit this year will grow to a record \$11bn-\$12bn.

The widening deficit reflects the effects of currency appreciation, falling international prices for key export products, a surge of spending for imported consumer products, and increased travelling abroad by Koreans.

Addressing an emergency meeting of economic ministers, Mr Kim said the growing deficit also served as a warning that Korea was losing its international competitiveness due to fundamental economic problems, such as rising wage costs, low productivity growth, and a heavy dependence on a few export products.

In an attempt to halt a sharp rise in wages caused by a tight labour market, the government decided to increase the number of imported workers from 20,000 to 30,000 and extend their contracts from two to three years.

Officials will also attempt to broaden Korea's industrial base by expanding into new sectors, such as environmental technology, and promote advanced products in existing industries, such as developing non-memory semiconductors and high-definition television.

However, the government acknowledged that these programmes would not benefit the economy in the short term. In an effort to maintain economic growth at 7 per cent this year, spending will increase for infrastructure projects to offset the impact of a slowdown in exports and resulting cutback in industrial investment.

There was also concern about a rise in the inflation rate above the official target of 4.5 per cent for this year.

# Thailand's respected bank chief falls from grace

Ted Bardacke explains why a steady hand at the helm has had to resign



Vijiit Supinit: thought to have compromised the bank's independence

As governor of Thailand's central bank Mr Vijiit Supinit was used to being the centre of attention at a party. So it was clear the end of his career was nigh when he received the cold shoulder at a reception hosted by senior commercial bankers and finished the evening standing alone in the corner.

It was a sad moment. A central banker for 30 years, Mr Vijiit had kept a steady hand on the helm at the Bank of Thailand, helping the country's economy weather everything from a military coup in 1991 and a sustained attack on the currency in 1995 to the still-present dangers of an overheating economy.

And he still found time to begin implementing a plan that has substantially liberalised Thailand's capital markets, providing the country with much-needed investment capital.

By the time Mr Vijiit submitted his resignation yesterday, however, he was a spent force. Over the past six months, the former governor opened himself, and the bank, to unprecedented political meddling by seeking to increase the central bank's political clout with the year-old Thai gov-

ernment and endear himself to new bosses.

First, he was widely thought to have co-operated with Mr Surakiat Sathirathai, former finance minister, in sacking the highly respected Mr Ekamol Khirwat as head of the Securities and Exchange Commission. Mr Ekamol, who was also deputy governor of the central bank and therefore a potential rival to Mr Vijiit, had caused early problems for the prime minister, Mr Banarn Silpa-archa, by threatening to resign over "political interference".

Mr Vijiit started an investigation into Mr Ekamol's affairs, including tapping phone conversations with top members of Thailand's financial community, which found the head of the SEC had "revealed state secrets".

Second, Mr Vijiit is thought to have compromised the bank's independence. Many became wary when Mr Vijiit said he would waive a key regulation preventing cross-holdings among financial groups to allow Finance One, the investment bank led by long-time friend Mr Pin Chakphak, to take over Thai Danu Bank. And when the Finance One deal

was closely followed by revelations that Mr Vijiit participated in the decision to approve a stock market listing for a finance company in which he held shares, his reputation for probity suffered.

Impartiality is a particularly crucial concern for the Bank of Thailand because so much of the central bank's economic policy relies on a policy of "moral suasion" which can be highly discretionary.

In pursuing its tight money objectives, the bank has been unable to rely on instruments such as a discount rate or bond prices, both of which have little impact on the Thai market. Instead, commercial banks must toe the line on interest rates and credit growth for fear that the central bank might not approve things ranging from directorships to investments in hedging instruments.

Third, revelations that Mr Vijiit soft-peddled for months on warnings that a medium-sized commercial bank, the Bangkok Bank of Commerce, was engaged in dubious lending practices proved particularly damaging. Led by the recently indicted Mr Kirikiat Jalichandra, a former central banker who rose

under the tutelage of Mr Vijiit, the bail-out of the Bangkok Bank of Commerce is expected to cost Thai taxpayers as much as \$2bn.

When the country's new finance minister, Mr Bodi Chunnananda, told Mr Vijiit last month that it was time for interest rates to fall, posing a direct challenge to the central bank's so-far successful strategy of engineering a soft-landing for the galloping Thai economy, the governor could offer little resistance. Other bank officials questioned Mr Bodi's strategy, but the politicians have, for the moment gained the upper hand.

"The governor had to go," says Mr Graham Caterwell, head of equities at Deutsche Morgan Grenfell in Thailand. "The downward spiral of political intervention needs to be stopped and getting rid of Mr Vijiit was the first step. But whether the trend will be broken or not depends on who is appointed as a replacement."

"The current government is particularly worrisome on this issue," he says. "We could be seeing the beginning of sustained political intervention in the affairs of the Bank of Thailand."

## Japan to throw money at research

William Dawkins reports on doubts that spending target will be met

The Japanese government yesterday moved to quash an old cliché, that Japan is good at developing existing ideas but weak at dreaming up new ones.

It aims to correct that shortcoming with a five-year "master plan" to spend ¥17,000bn (\$155bn) on science and technology, agreed by the cabinet yesterday. The scheme is not quite as spectacular as it looks, because it merely confirms a four-year-old cabinet decision and has been shorn of important details such as exactly whether and even when the money will be spent.

That said, the target is grandiose: to lift public research spending to ¥4,300bn a year by early next century, double the annual rate when the plan was first proposed by the government's Science and Technology Agency in 1992, and nearly 60 per cent more than this year's ¥2,700bn state research budget.

Whether the agency will really meet that target is uncertain, because the tight-fisted Finance Ministry will continue to control each year's research budget. Ministry officials are unwilling to release the cash without a clearer idea of the benefit, as yet vague, of the research programme. Yet the cabinet's approval marks the clearest official recognition to date that, for all its excellence at applied technology, Japan is behind in innovation.

Anybody visiting the research laboratory of a Japanese university can see why. Equipment is out of date, the staff are underpaid by comparison with western counterparts and industry links are almost non-existent. "Many Japanese companies find it easier to work with a US or UK university than with a Japanese institution," observes a European scientist working in Tokyo. "The point is underlined by

recent setbacks at three of Japan's flagship technology projects, last December's leak at an experimental fast breeder nuclear reactor and the loss in February of an unmanned prototype space shuttle, which sank in the Pacific ocean after a rope attaching it to a buoy broke. A year earlier, a scientific satellite spun out of orbit and plunged into the Pacific.

The Science and Technology Agency hopes the plan will address two problems: a shortage both of quantity and quality of basic research.

Japan is the world's second largest spender on research and development, \$130bn in the current fiscal year to next March, according to official data. Yet the public sector pays only a fifth of the total, by comparison with the roughly 60 per cent of national research spending born by the US government, says the agency. The US defence budget

explains nearly all the difference. The Japanese military, bound by a pacifist constitution, carries out very little research. Yet the German government, with a similar constraint, funds 50 per cent of its national research, points out the Japanese agency.

The Japanese government spends about 0.6 per cent of gross domestic product on research, just over half the 1.1 per cent or so spent by the US and Germany, it adds. More worrying, private sector research has declined in each of the past three years, for the first time since the second world war, in the general corporate cost-cutting drive induced by the recession.

Agency officials forecast that Japan's 600,000 private and public sector researchers will dwindle to just over 500,000 in 2005, as a consequence of the country's ageing demographic profile and the unpopularity of

### Japan's low achievement in the science prize

Country	Physics	Chemistry	Physiology/medicine	Total
US	55	37	70	162
UK	20	23	22	65
Germany	19	27	14	60
France	11	7	8	24
Sweden	4	4	7	15
Switzerland	2	5	5	12
Former USSR	7	1	2	10
Netherlands	2	2	2	6
Austria	3	1	4	8
Denmark	3	1	5	9
Italy	3	1	3	7
Belgium	1	1	4	6
Japan	3	1	1	5
Ghana	6	7	10	23
Total	142	117	155	414



Source: Science and Technology Agency

basic research jobs. The agency highlights "low flexibility and competition" in public research institutes, which tend to be staffed by lifetime employees. Under the new plan staff will, like western counterparts, be put on short-term contracts for the life of their project and be allowed to hold second academic jobs.

Quality of basic research is harder to measure than quantity. An agency paper bemoans the rarity with which foreign scientists quote Japanese research results, and the paucity of Japanese natural science Nobel prize winners - only 1.2 per cent of the total. An even more damning verdict came from working inter-

national scientists. Of 87 young researchers from around the world, taking part in a Japanese-sponsored "human frontier" programme, only two - both Europeans - chose to pursue their studies in Japan. The hope is that ¥17,000bn will be enough to attract the best creative brains to work in Japanese laboratories.

## ILO urges change to labour law

By Robert Taylor, Employment Editor

South Korea has been strongly criticised by the Geneva-based International Labour Organisation over its restrictive industrial relations laws and was told to let workers join the trade union of their choice.

The ILO governing body has just accepted a report from its freedom of association committee calling on the South Korean government to modernise labour legislation that has been in force since the dictatorship of President Syngman Rhee in the 1950s.

South Korea is pressing hard to become a full member of the Organisation for Economic Co-operation and Development and a decision on its application is expected in the autumn. But unless changes are introduced to ensure trade union freedoms observers believe it is unlikely the country's membership will be accepted.

The ILO committee criticises last November's arrest and detention of Mr Kwon Young-ki, president of the Korean Confederation of Trade Unions (KCTU) and the government's refusal to recognise that organisation as lawful.

Under Korean law only the Federation of Korean Trade Unions is accepted by the government.

The ILO calls on all charges brought against Mr Kwon to be dropped and urges the government "to ensure trade union leaders are not arrested and detained for activities in connection with the exercise of their right to organise". Mr Kwon was released from prison on March 13 this year.

"The government's arguments for not registering the KCTU because it violated national laws are not persuasive since these laws are not in conformity with the principles of freedom of association," says the ILO report.

It urges the South Korean government "to take appropriate steps so the KCTU is registered as a trade union confederation".

A presidential commission has recently been established in South Korea on industrial relations reform to propose changes to bring the country's labour legislation into line with the government's commitments to ILO core conventions it signed four years ago.

## HK ruling on video services

By Louise Lucas in Hong Kong

The Hong Kong government yesterday ended a long-running industry battle by declaring that "video on demand" services should be subject to the same regulations governing other television services.

The move comes after heavy industry and consumer lobbying which culminated in a court case, launched by Wharf Cable, the television arm of the property-to-infrastructure company Wharf Holdings.

Wharf Cable holds the exclusive pay-TV franchise for the colony and argued the government's decision to allow Hong Kong Telecom, the colony's dominant telephone services provider, to proceed with commercial trials of its own video on demand service breached Wharf's franchise. Wharf has been seeking confirmation video on demand was a broadcast service and so subject to the same rules and regulations as other broadcasters.

Hongkong Telecom said its ambitious plans for video on demand and related services such as home banking and shopping would make it the first provider of these multimedia services as a single package. It argued that as its service was delivered down telephone lines it should merely be regulated by the Telecommunications Authority, the telecoms watchdog. Now it will be subject to the same ownership and control restrictions as its broadcasting peers, and will also have to pay royalties in respect of subscription and advertising revenues.

Yesterday, the government further acknowledged industry complaints by agreeing to cut the rate of royalties paid by the territory's two terrestrial stations, Television Broadcasts (TVB), in which Pearson, owner of the Financial Times, has a 10 per cent stake and Asia Television (ATV).

TVB, the larger of the two and the most vociferous in calling for a reduction, last year paid HK\$220m (US\$28m) in royalties. It has argued that the levy of 10 per cent of advertising revenues exceeds the levies imposed on monopolies such as utilities, and that far from having a monopoly it shares the market with a profusion of cable and satellite broadcasters.

### ASIA-PACIFIC NEWS DIGEST

## Singapore homes boom cools

Growth in Singapore's residential property market has slowed in the second quarter following strong expansion in the first three months of the year, UK property consultant James Lang Woodton said yesterday. "The private housing market, which had threatened to boil over in the early part of this year, has simmered down in the second quarter," it said in a report.

The report gave no reasons for the decline, but the Singapore government in May introduced a series of surprise measures aimed at cooling property speculation and damping prices. The report said average capital value appreciation for apartments and houses slowed to 3.7 per cent in the second quarter compared with 5.9 per cent for the first quarter. "Whole island average capital value now stands at \$240 per square foot," it said.

Reuter, Singapore

## Australia trade deficit increases

Australia's current account deficit for May soared to a seasonally adjusted A\$2.15bn (US\$1.7bn), up from a revised figure of A\$1.97bn for April. This was the first time in six months that the monthly figure had topped the A\$2bn mark. The data rekindled memories of early 1995, when the country's deficit was regularly topping A\$2bn a month, peaking at A\$2.7bn in May 1995.

The latest figures showed merchandise exports falling by 4.3 per cent, or A\$275m in the month. Rural exports suffered a 3.8 per cent slide while non-rural exports dipped by 4.5 per cent. Merchandise imports were also lower - but by only 1 per cent, or A\$70m. But while the May deficit was larger than most private sector economists were expecting and the Australian dollar and local bond prices dipped on the news, some analysts suggested that the situation should now stabilise - albeit at uncomfortably high levels.

Nikki Tait, Sydney

## Manila peace plan attacked

President Fidel Ramos yesterday came under attack by Christian groups for agreeing to an autonomous zone in the south of the Philippines to be controlled by the country's largest Muslim rebel group. On a visit to Mindanao, home to most of the country's 5m Muslims, Mr Ramos was accused of selling out to the Muslim rebels 24 years after the insurgency began.

The deal, due to be signed at peace talks in Jakarta later this month, provides for a "peace and development council" for the southern Philippines to be dominated by Muslim officials. Mr Nur Misuari, chairman of the Moro National Liberation Front, who returned to the Philippines from exile in Saudi Arabia for the peace talks two years ago, has been invited to head the autonomous body for three years until a referendum can be held to determine the scope of the autonomous area.

Leaders of the Christian residents of the 14 provinces to be included under the accord, who claim that 50,000 people have died in the fighting since 1974, told Mr Ramos that Muslims constituted barely 30 per cent of the area's population.

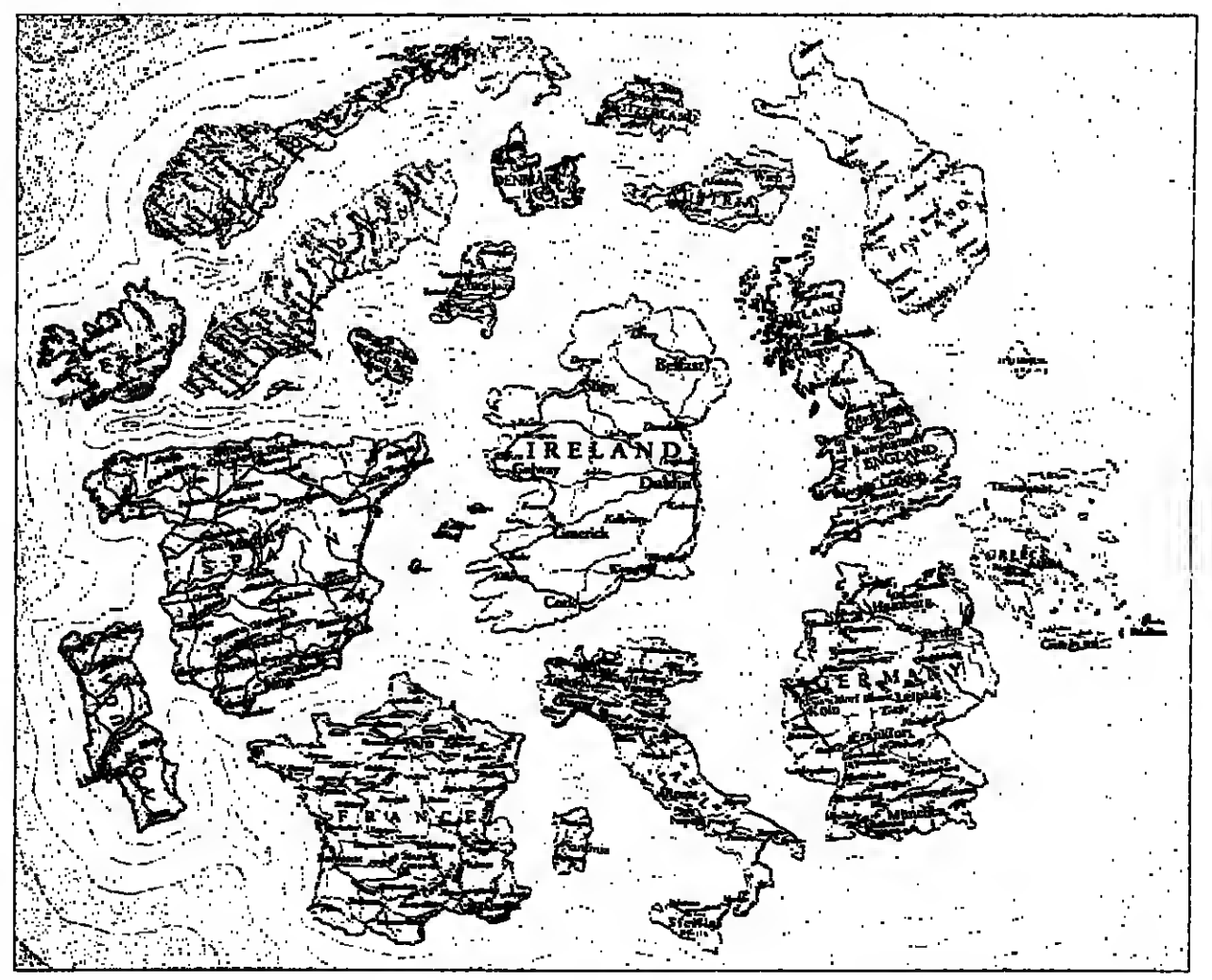
Edward Luca, Manila

## Mongolian election rout

Mongolia's opposition Democratic Union Coalition won 50 of the 76 seats in parliament in final results yesterday, routing the former communists who had held power for 75 years. The ruling Mongolian People's Revolutionary party (MPRP) had yet to make an official comment on its crushing defeat, but US election observers said government leaders had given assurances they would co-operate to ensure a smooth transfer of power. "The MPRP saw its 70-seat majority in the Great Khural, or parliament, slashed to just 25."

"It's a revolution," Mr Hashib Hulan the victorious coalition leader said in an interview. "All our polls suggested this, but we did not expect this."

Reuter, Ulan Bator



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NEWS: THE AMERICAS

# Home sales increase interest rate pressure

By Michael Prowse in Washington

New US home sales soared to their highest level in a decade in May, increasing pressure on the Federal Reserve to signal an early increase in short-term interest rates.

The Commerce Department said sales rose 7.5 per cent to a seasonally adjusted annual rate of \$28,000, the highest level since April 1986. The figures surprised Wall Street as most economists had projected a decline in sales of about 3.7 per cent in response to recent increases in mortgage rates.

The figures were released shortly before Fed governors and regional presidents began a two-day meeting to discuss interest rate strategy. In recent days analysts have speculated that the Fed would delay an increase in rates until its meeting in late August. By then, analysts argued, the Fed would be better able to judge whether a recent surge in economic growth posed a serious inflationary threat.

Buoyant data this week, however, may have strengthened the hand of Fed policy makers seeking an early increase in rates. On Monday, the purchasing managers' index rose sharply to its highest level in 16 months, signalling a strong rebound in manufacturing industry. This followed figures showing big increases in employment, industrial production, retail sales and new orders in May.

Figures early next month are expected to show economic growth at an annual rate of about 4 per cent in the second quarter - well above the pace the Fed regards as compatible with stable inflation.

Yesterday's data on home sales indicated the recent sharp rise in long bond yields has done little so far to curb demand for housing, one of the most interest-sensitive sectors of the economy. Rates on 30 year mortgages averaged 8.09 per cent in May, more than a percentage point higher than in January.

The rise in the leading index for a fourth consecutive month indicated the economy was likely to remain strong for the rest of this year. The main components pushing up the index were increases in sensitive materials prices, a longer factory working week and higher orders for plant and equipment.

# Colombia protests at US policy

By Timothy Ross in Bogotá

Colombia's foreign ministry has protested strongly at what it calls US interference in internal political affairs, warning that Washington's "incorrect and unjust policy" could deepen "growing anti-American feelings" in Colombia.

The protest follows publication in The Washington Post on Sunday of a memorandum from Mr Myles Frechette, US ambassador to Colombia, recommending that his government impose sanctions against Colombia and cancel the US visas of President Ernesto Samper and senior members of his government so as to "isolate and weaken" him.

The report of the memorandum, which has not been denied by Washington, follows an unprovoked deterioration in US-Colombian ties over the past year, amid charges that Mr Samper's presidential election campaign in 1994 was partly financed by drug traffickers of the cartel based in the Colombian city of Cali.

Last week, Ms Janet Reno, US attorney-general, requested the extradition of four top Colombian drug traffickers. The Bogotá government rejected the request, on the grounds that extradition was banned by Colombia's 1991 constitution, although the US insists that an earlier treaty remains valid.

The newest political tensions have set off a debate in Colombia about reviving extradition, and the prosecutor-general has proposed studying a possible constitutional reform to reinstate what he calls "a valuable tool against international drug trafficking."

The Colombian government communique accuses the US of endangering democratic stability and it rejects sanctions, unilateral actions and "discourteous statements that wound national dignity."

US election campaign issues and Colombia's own problems, says the document, should not get in the way of co-operation against drug trafficking.

# Republican standard bearer alleges pro-Democrat bias

## Dole snarls at TV networks

By Jurek Martin in Washington

Mr Bob Dole yesterday charged that TV networks in the US may be violating laws "by always sticking up for Democrats."

In a tatty morning TV interview, the presumed Republican presidential candidate suggested that the media and Democrats had deliberately taken out of context comments in which he had implied that cigarette smoking was not necessarily addictive.

"I've said I don't know whether it's addictive, I'm not a scientist," Mr Dole said. But, he went on, "are we going to regulate everybody's adult life? Adults ought to be free to make choices."

The tobacco industry was "in a legal business" and it was "hypocritical" of the Democrats, who had accepted money from tobacco companies, and of their allies in the "liberal elite" media to suggest that he was in their pocket.

"Only people like you in the media don't question the Democrats and how much money they receive," he said. Implying clear collusion, he said the networks could be in violation of Federal Communications

Commission laws on political neutrality in broadcasting.

There is nothing new in the Republican conviction that leading media organisations are tilted towards the Democrats. But the refrain has been picked up with vigour over the last two weeks.

Mr Dole himself does not enjoy close relationships with the reporters covering his campaign, their access to him being limited. That has resulted in some fairly cool reporting of his efforts to date.

That may be contrasted with Mr Bill Clinton's serious attempts to court the media during his presidential campaign in 1992. These, Republicans believe, helped to insulate Mr Clinton from the assorted allegations related to the Whitewater affair and to personal matters that, at various times, threatened to undermine his bid for the White House.

Three and a half years in the presidency, however, have cooled any romance between Mr Clinton and the press, with his re-election campaign now subject to a degree of scrutiny certainly equivalent to that directed at Mr Dole.

The latest round of opinion polls still shows the president with a healthy lead. A Washington Post/ABC survey, published yesterday and conducted late last month, found it down to 14 points, from 22 in mid-May, mostly because of Whitewater and other allegations. But another national survey, which had given Mr Dole a lead of 19 points, now puts the gap at 18 points.

Mr Dole is also still fighting controversy over his stance on abortion. On Monday, he appealed to moderate Republicans by stating he could accept a vice-presidential running-mate who was not pro-life and yet again ran into a buzz-saw of outrage from religious and cultural conservatives.

Asked by a TV talk show host if a prospective vice-president's position on abortion would be a major factor in his choice, Mr Dole said defiantly: "Not to mine. To others it might make a difference, but I'm the nominee."

He even said he had no problems with the pro-choice beliefs of Governor Christine Todd Whitman of New Jersey. However, she issued a statement praising Mr Dole's stand but reaffirming she did not want to be a candidate.

# Another arrest in probe of paramilitary right

By Christopher Parkes in Phoenix

US federal authorities yesterday announced another arrest in an alleged paramilitary plot to bomb government buildings in Arizona, bringing to 13 the number of people detained.

The latest arrest took place late on Monday, shortly after the government had held 12 alleged militia members in Arizona on conspiracy and explosive charges, following one of the most successful reported covert actions against armed anti-government groups in the US.

On Monday, 10 men and two women were charged, all said to be members of the Viper Militia, and 400lb of fertilizer, similar to that used in the deadly April 1995 bombing of the Oklahoma City federal building, was seized. The move came nine months after an Amtrak train was derailed in

Arizona, apparently by dissidents calling themselves Sons of Gestapo, and shortly after the surrender of a group of Montana "freemen" at the end of a siege by federal agents.

The arrests followed a six-month investigation during which a state police officer is understood to have infiltrated the group and gathered information on meetings and secret training in the desert with home-made bombs.

As well as the explosive chemicals, and three unregistered machine-guns, arresting agents seized a videotape showing how best to place charges to ensure a bombed building's collapse.

Mr Raymond Kelly, Treasury under-secretary for enforcement, said on Monday some search warrants had not yet been fully executed, "so it's possible there could be more arrests".

The indictment, unveiled in Phoenix, also included alleged

references by the accused to home-made rockets powerful enough to destroy a police car, and the need for explosives "to take out tanks in the upcoming war with the government."

Ms Janet Napolitano, federal prosecutor responsible for Arizona, said the Viper members were suspected of having planned to blow up half a dozen buildings including the Phoenix police department headquarters and buildings housing the Federal Bureau of Investigation and the Internal Revenue Service.

The Viper Militia was unknown to most Arizonans before Monday's arrests, but the state is home to several dissident groups. Most are rightwing, self-styled white supremacist or "patriot" gangs. Prominent individuals in the milieu include several police officers, according to the Anti-Defamation League, an arm of the Jewish organisation B'nai B'rith.

# Test for Chile's central bank

Resignation of chief raises autonomy questions, writes Imogen Mark

The resignation of Chile's central bank president last week after a prolonged struggle within the board of directors has cast doubt on the extent of the bank's autonomy.

Mr Roberto Zahler, who had been due to leave in December when his five-year term expired, announced his resignation on Friday, after banking business had closed for the weekend.

His brief statement referred to "situations in recent months" which made it impossible for him "to continue leading the central bank according to what I think are basic principles".

Mr Zahler has not elaborated on his statement. He worked closely with the previous finance minister, Mr Alejandro Foxley, who was known to get on less well with the present minister, Mr Eduardo Aninat. Mr Zahler had publicly criticised the government's reluctance to cut spending, though both ministers had run steady fiscal surpluses.

The central bank's institutional role is to guide monetary policy, and Mr Zahler made it his personal mission to bring down inflation gradually but steadily, which he has succeeded in doing - from 27 per cent in 1990 to 8.2 per cent last year. This year's target of 6.5 per cent looks just about within reach.

But though the government agrees on the overall aim there have been public differences about whether or how much growth should be sacrificed in the anti-inflation cause. In April, the two central bank board directors closest to the government, Mr Fabio



President Eduardo Frei: He is expected to name soon a new head of the country's central bank

Piñera and Mr Jorge Marshall, the vice-president, are believed to have voted against Mr Zahler on a new round of interest rate rises.

All the central bank directors are appointed for varying terms, by the president, with some consultation with the opposition. The political balance now favours the governing coalition, with three of the five having been appointed after Chile's return to democracy. Mr Zahler himself is a Christian Democrat, but was named at the end of the military government, when technical excellence was the overriding criterion for the then-opposition candidates.

The real sticking point on the board, however, has been

the long negotiations over repayment of old bad debts owed to the central bank by five local banks. These date back to bail-out packages arranged during the bank crisis of 1982-83, when much of the banking system was technically insolvent. At the end of the military government in 1989, the status of the debts was changed to allow the banks to put them off the balance sheet, as subordinated debt, with no term for repayment. The aim was to make sure that the incoming democratic government could not use the debts as an argument for nationalising the affected banks.

But it also meant that the central bank had no means of pressing for repayment,

beyond a percentage of annual earnings. Relations between Mr Zahler and some of the debtors, particularly the Banco de Chile, until recently the biggest private bank, became very strained.

The previous and the present government opted to liberalise the banking law in exchange for setting new rules for the debt repayment. By the time the rules were agreed last year, most of the banks had chosen to repay their obligations. Only the five most heavily indebted, including the Banco de Chile and the Banco de Santiago, remained.

The central bank board has been negotiating new terms with each of the five in recent weeks, and reached firm agreements with two, including Banco de Chile. But Mr Zahler had apparently held out for tougher terms, while Mr Marshall is said to have argued for a softer position, to get the issue out of the way once and for all. Mr Marshall's position carried the day in the board, and Mr Zahler resigned.

The government and the central bank expressed formal regret at his departure and paid tribute to his professional competence and dedication. The government and the board retained their commitment to maintaining the bank's autonomy, and to the economic programme for 1996.

But the real test of how independent the government will allow the central bank to be will come when President Eduardo Frei names Mr Zahler's successor, within the next few days. The new bank president will have to possess both a strong character and considerable negotiating skills to maintain effective autonomy.

# \$50m embezzlement charges levelled at treasurer of national agency

## Welfare official held in Mexico

By Leslie Crawford in Mexico City

The treasurer of Mexico's Social Security Institute (IMSS) has been jailed on charges of embezzling 360m pesos (\$50m) from the agency, which handles the pensions and savings of more than 9m Mexicans.

Mr Carlos Tomás Peñalosa Webb, the treasurer, was accused late on Monday of having defrauded the institute

with the alleged connivance of two employees of a Mexican brokerage house.

According to Mr Arsenio Farrell, Mexico's comptroller-general, Mr Peñalosa Webb authorised numerous stock market transactions during 1994 and 1995, which generated huge profits for the brokerage house and respective losses at the treasury of the IMSS.

The brokerage's profits were then, it is alleged, transferred

to bank accounts which Mr Peñalosa Webb held in the US.

He is the first senior civil servant to be jailed on charges of corruption under President Ernesto Zedillo's government.

The move is expected to help the president in his drive to reform the IMSS, which operates a mammoth bureaucracy with more than 300,000 employees and a budget bigger than that of Pemex, the state-owned oil monopoly and

Mexico's biggest company.

This year, the Mexican Congress approved a bill to privatise the country's pension fund system.

Under pressure from nationalist politicians, however, a role larger than that expected was reserved for the IMSS, which will be allowed to set up its own company to run pension funds and thus to compete with private-sector financial groups.

# Caracas sees inflation fall

By Raymond Collin in Caracas

Venezuela's monthly inflation rate fell in June to 7.1 per cent from 12.6 per cent the previous month. It was the first fall since March this year.

The government has forecast that monthly inflation will fall steadily to 2 per cent by year-end. However, analysts say a recently approved sales tax increase from 12.5 to 16.5 per cent and expected utility rate rises will add to inflationary pressure in July and August.

The government in April implemented austerity measures that included a seven-fold petrol price increase and resulted in a 40 per cent depreciation of the national currency, the bolívar. Inflation for the past 12 months now stands at 108.1 per cent, compared with 61.2 per cent for the previous 12 months.

Mr Luis Borrabetti, executive director of the International Monetary Fund, said: "The inflation rate of June is

behaving practically according to what was estimated under the macroeconomic stabilisation programme." He expected monthly inflation to be about 1.5 per cent by year-end.

The Andean Development Corporation (CAF) this week granted Venezuela a \$300m loan to help support and restructure its banking sector. The six-year loan will be disbursed in two tranches later this year and carries an interest rate of 2.45 per cent over Libor. The CAF said: "This is the most important CAF loan to Venezuela and the first multilateral credit approved to help reform Venezuela's financial system."

Venezuela expects additional loans of up to \$400m each from the World Bank and the Inter-American Development to reform its banking sector. Rescuing the industry in 1994 cost more than \$7bn. The CAF also approved loans of \$165m to Colombia, \$62.5m to Ecuador and \$37.1m to Peru.

# IBM sues over job in Argentina

By Matthew Doman in Buenos Aires

IBM, the US computer giant, yesterday began legal action against Argentina's state-owned Banco Nación, seeking payment for work already done on a controversial \$24m computer installation contract recently cancelled by the bank.

The contract is the subject of a criminal investigation which has led to the indictment of 30 IBM staffers and Argentine government officials accused of having defrauded the bank and the state. Banco Nación cancelled two weeks ago the contract to install computers serving its 525 branches, citing "the impossibility of completing the contract's objectives".

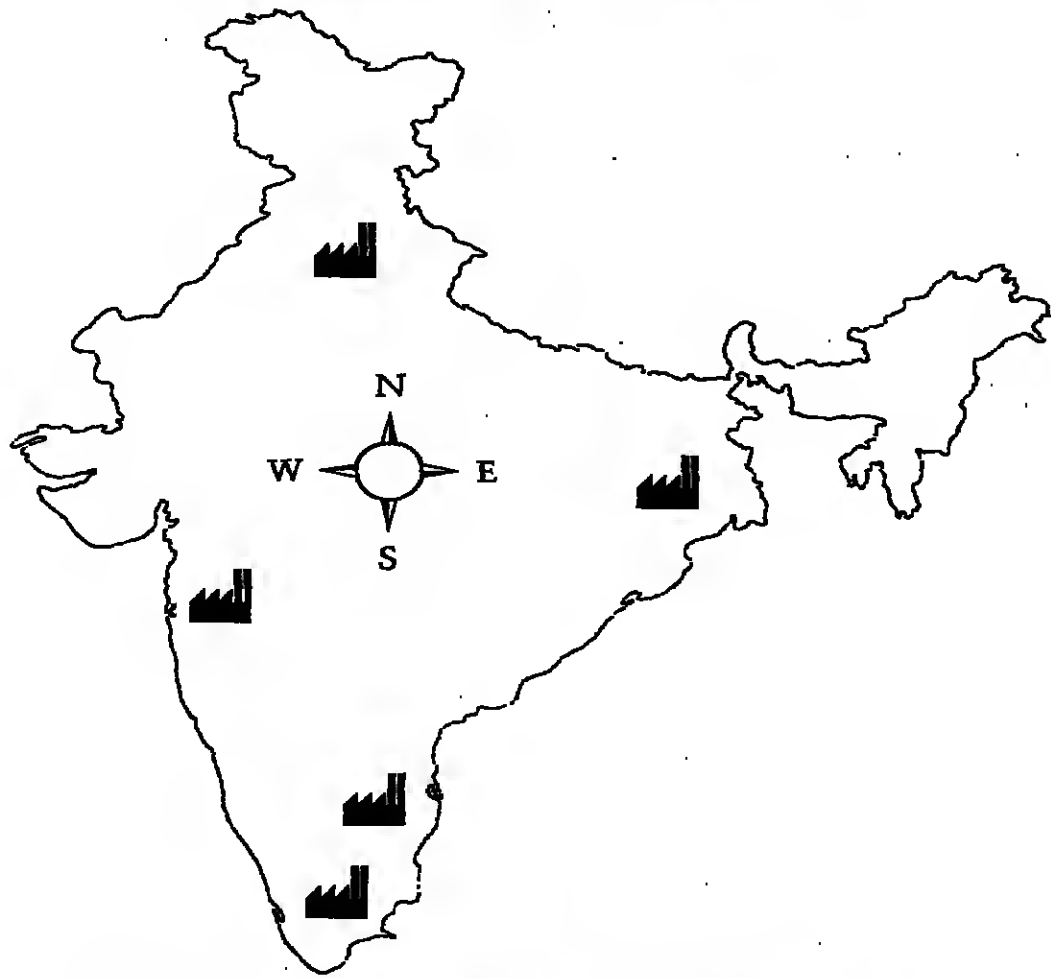
IBM said yesterday that it would seek payment for work performed, costs incurred and other unspecified damages arising from what it called the bank's "wrongful revocation" of the contract.

hard to complete this project and to meet Banco Nación's changing requirements," said Mr Wilmer Guacamburo, president of IBM's Argentine operations. He said IBM would have preferred an "amicable agreement" with the bank, but Nación's annulment of the contract had left it with no alternative but "to go to court to protect our legal rights".

IBM, which is seeking damages of \$36m, claims Banco Nación failed to carry out its obligations under the contract and improperly changed technical requirements, making it impossible for IBM to fulfil the contract. The bank made no comment on IBM's legal action.

The indictments of senior IBM staff members, virtually the entire bank board and several other officials in April followed a six-month investigation into allegations that bribes were paid to win one of the biggest information technology contracts in Latin American business history.

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# Profit of \$1.8bn expected on 1993 account

By Ralph Atkins, Insurance Correspondent

Lloyd's of London will next week mark the end of five loss-making years by reporting a \$1.8bn (£1.5bn) profit for the 1993 account, according to estimates yesterday. They suggested that there would also be an additional \$400m bonus for Names underwriting that year.

The estimates by Chatset, the Lloyd's analysis organisation,

highlight the turnaround at the insurance market which has reported losses of more than \$2bn since 1987. Lloyd's reports three years in arrears. But Chatset warned that "ill-effects" could be created by benefits for Names underwriting in 1993 resulting from the insurance market's recovery plan. Names are individuals whose assets have traditionally supported the insurance market.

As part of the plan, Lloyd's is setting up Equitas, a big reinsurance company which will take responsibility for billions of dollars of mainly US asbestos and pollution liabilities.

Many Names will have to pay towards the cost of Equitas. But the high level of financial reserves held during 1993 means that those underwriting will receive a \$400m release.

Chatset warned that the extra funds might cause resentment among badly affected Names who could not afford to continue underwriting in 1992. It also suggested that the distribution to 1993 might have been better allocated to strengthening the reserves of Equitas.

Lloyd's said "tough justice" was inevitable under the plan. It pointed out loss-making Names would benefit from a

\$3.1bn out-of-court settlement offer which was also part of the plan. Equitas offered a cost-effective way of capping Names' liabilities, allowing them to leave Lloyd's. Chatset acknowledged that the recovery plan "is pretty attractive for most Names".

The 1993 profit figures reflect the turnaround in the international insurance business after a bleak start to the decade. Chatset estimates returns on "capacity" - the amount of business Names are able to underwrite - were as high as 20 per cent on marine business, before taking account of the Equitas release. Return on capital would have been at least twice as high.

In 1994, Lloyd's is expected to have made a further \$1bn profit. The following year's profits were affected by a downturn in motor insurance premium rates but are still expected to reach about \$700m.

However, this year's figures could mark a significant deterioration. A survey released yesterday by the London Insurance and Reinsurance Market Association, representing non-Lloyd's insurance companies in the UK capital, showed premium rates for

"reinsurance" policies continuing to fall. That could put pressure on profit margins across the market.

Mr Stephen Riley, chief executive of Swiss Re (UK), said premiums "are about to cross the murky water between what is just about an acceptable commercial rate and an unacceptable rate".

Lloyd's confirmed it could set up a separate reinsurance company to take over the liabilities of US Names if it was prevented by state securities regulators from offering Equitas cover in the US. A Lloyd's insider described the option as a "contingency plan".

## Mars wins court fight over hat messages

By Jimmy Burns in London

The men and women in plastic bowler hats have cast an unfortunate shadow over the celebrations among the organisers of the generally successful Euro 96 football championship. For much of the three-week championship, the bowler hats, worn mainly by thousands of English fans, became a familiar sight on TV screens around the world.

But it has emerged that they have also cost ISI, marketing the Swiss-based company with exclusive rights for organising the sponsorship of the tournament, an undisclosed sum in legal fees as a result of an unsuccessful court action in London to have them banned.

ISI was yesterday still licking its wounds from the courtroom scrap with Mars, one of the sponsors of the tournament, whose "Snickers" logo together with England's St George's cross were prominently displayed on the hats.

ISI argued that Mars had violated the principle of "equality of branding on site" accepted by all the tournament's sponsors, by distributing hats near Wembley stadium before all the main matches. Coca-Cola is thought to have led earlier complaints by other sponsors about the bowler hats.

"We felt that equality was a fundamental issue at the heart of the sponsorship we sell," Mr Tom Hipkins, ISI's senior counsel, said yesterday in Lucerne. "It would be unfair to characterise this as a Coca-Cola issue. It was the subject of concern for other sponsors, too."

Mars was unrepentant yesterday. "We believe we were doing nothing wrong and that the court case was unnecessary," Mr Steve Clarke, the company's events marketing manager said yesterday.

The company argued in court that there was nothing in its agreement with ISI prohibiting the sale of plastic bowler hats in and around Wembley stadium. Underground station. Mars added that it had obtained a licence to sell the bowler hats from the local council.

ISI and Mars are contractually bound to work together in the 1996 World Cup in France. "We have to organise ourselves in such a way that we can preserve equality in the future," said Mr Hipkins.

## 'French' climate ahead for London, say scientists

By Clive Cookson, Science Editor

Global warming will widen the UK's climatic gap between the wet north and the dry south, a government review of climate change warned yesterday.

The UK Climate Change Impacts Review Group, an independent scientific panel reporting to the Department of the Environment, predicts that the north and west of the country will become even wetter over the next half-century, with more flooding.

The south and east will become drier, with frequent droughts. The climate of the London area in 2050 will be like that of the Champagne or Loire regions of France today; by 2050 it will be like Bordeaux.

Mr John Gummer, environment secretary, attacked "sceptics" who refuse to believe the evidence before them. He said that, at a UN-sponsored conference on climate change in Geneva next week, he would call for further cuts in the emissions of "greenhouse gases" - mainly carbon dioxide from burning fossil fuels - by developed countries. UK emissions are expected to be between 4 and 8 per cent below 1990 levels by 2000, he added.

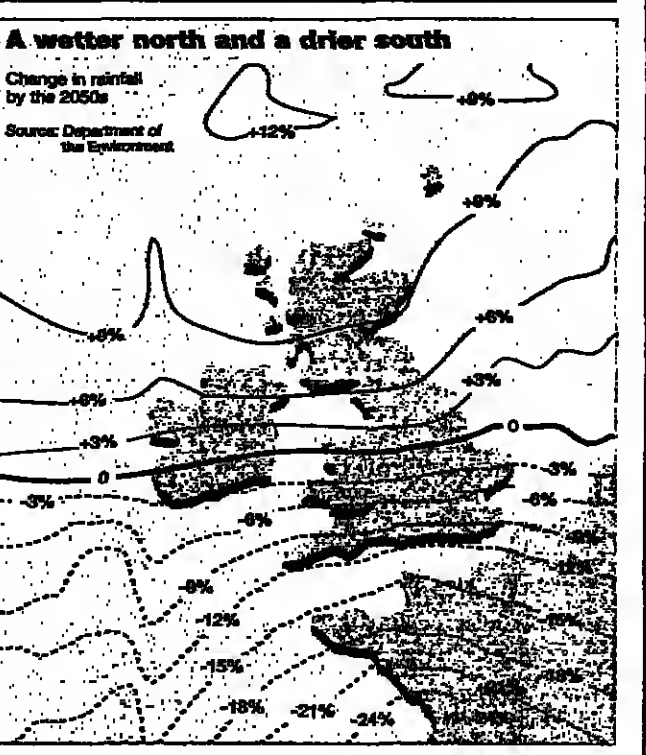
Professor Martin Parry of University College London, who chaired the review group, said some sectors would benefit from the climate changes but a larger number would lose out. Likely beneficiaries include: tourism and recreation; forestry (with a predicted 15 per cent increase in

yield); and farming in some upland regions.

There is a longer list of losers. Farmers in most of England will suffer from soil erosion and reduced crop yields. Wildlife will find it difficult to adapt as climate zones move northwards by 200km over the next 30 years. There may be new human health problems, for example if insect-borne diseases become established in warmer conditions.

The insurance industry is vulnerable, the report says. Drought-related subsidence, storms and flooding will all cause more insurance claims.

The review predicts an increase in the UK average temperature from 9 deg to 10.6 deg by 2050. At the same time, the global sea level will rise by 35cm.



## Brussels warns of threat to regional funding

By Richard Wolfe in Birmingham

The European Commission warned business leaders yesterday that regional funding would be jeopardised if Britain withdrew from closer European union.

Alongside a stinging attack on government policy towards the European Union, Mr Graham Meadows, director of regional policy at the Commission, said the UK's opposition to a single currency was likely to deprive struggling areas of industrial support.

Speaking at the national conference of the British Chambers of Commerce, Mr Meadows suggested the UK would be excluded from "flanking policies" designed to help member states move towards a single currency. Those inside a single currency would not allow the UK "to steal their benefits", he added.

His attack on British policy was echoed by Mr Geoffrey Martin, head of the European Commission office in Great Britain, who condemned Conservative Eurosceptics for wanting to stop closer union and return to the days of the common market. "Taken together, the policies of Euroscepticism are tantamount to withdrawal from the European Union and are fundamentally at odds with the wishes of the 14 other member states," he said.

However Mr Ian Lang, the

## Quality of drinking water too low, say EU officials

By Jane Martinson and George Parker in London

Drinking water in the UK came under attack from the European Commission yesterday as the British government itself took a privatised water company to court over contaminated supplies.

In a highly embarrassing move for the government the European Commission has referred its evidence on levels of pesticides in UK tap water to the European Court of Justice.

At the same time as "rigorously defending" itself, the UK's Department of Environment announced it was to take South West Water, one of the UK's nine privatised water companies, to court next

## Executives 'were underpaid'

By Jane Martinson and George Parker in London

all the reviews of what went wrong last year, nobody said one of the problems was that the directors were not paid enough.

The annual report, now being posted to shareholders, discloses that the former chairman and chief executive, who both stepped down in May, received total pay of £170,000 (£260,000) and £155,000 last year. The company said it had reviewed remuneration in line with the recommendation in last year's Greenbury report on executive pay.

The remuneration committee of non-executive directors concluded top salaries were too low following the company's

## Trico to expand Welsh plant

By Jane Martinson and George Parker in London

Trico, a US-owned motor components company, is to create 150 jobs in a £5m (\$7.6m) expansion at Pontypool, south-east Wales. The company, which has been at Pontypool since 1992, has an existing workforce there of 435 people. It is increasing production after reaching a distribution agreement for its wiper blades with NGK of Japan. The expansion, which has grant support from the Welsh Office, will also enable Trico to diversify its range of products.

## Jersey to protect partners' assets

By Jane Martinson and George Parker in London

The partners of Britain's leading accountancy firms will now be able to protect their personal assets from big lawsuits by registering their partnership in Jersey. The island's parliament yesterday voted by 25-19 to allow limited liability partnerships to be established on the island.

Under the new law firms are still liable to be sued, as are negligent partners, but the assets of the rest of the partners are safe. Two substantial UK firms, Ernst & Young and Price Waterhouse, helped the Jersey authorities draft the law and both are enthusiastic about taking up registration.

There is strong pressure on the UK government to allow limited liability partnerships in the UK. The Department of Trade and Industry is looking at a wide range of options on professional liability. The Jersey legislation follows similar laws passed at state level in the US.

## Machine tools deficit

By Jane Martinson and George Parker in London

Britain experienced a big trade deficit in metalworking machine tools in the first quarter of 1996, after a surplus in the equivalent period a year earlier, says the Machine Tool Technologies Association, the main trade body for the industry.

The change to a deficit in the first three months of this year of £22.9m (\$30.3m) from a surplus of £5.6m in the equivalent period a year earlier was caused mainly by a large rise in imports. For the whole of last year, machine tools recorded a deficit of £121.6m compared with a surplus of £17m in 1994. Machine tools have slipped into deficit partly as a result of large investment programmes in UK industry.

## World Service changes opposed

Organisers of the campaign to save the BBC's World Service have written to every governor of the BBC warning that, if current changes go ahead, the World Service would first "alienate its audience, then lose them". The warning came in response to the reconstruction of BBC management under which World Service programmes would in future be made by other divisions of the BBC under contract.

The campaign argues that the plans would end the cross-fertilisation that occurs because World Service staff who broadcast in English and those who produce the 43 other language services are all in the same building.

The aspirations of BBC journalism can be taught to the newcomers just as we rely on them to help us understand their cultures," the letter argues. The Campaign insists that there is no need for the World Service to be subsumed into a restructuring intended above all to bring benefit to British television audiences, particularly as the World Service is cheaper in every area than any other part of the BBC.

## Focus on communication

The National Heritage Department should be renamed the Department of Communications and Heritage and its role strengthened and extended to include communications and the information superhighway, MPs recommended yesterday. A report by the national heritage committee of the House of Commons argues that allocating responsibility for developing the superhighway to one of seven junior ministers in the Department of Trade and Industry gave it nothing like sufficient weight. Responsibility for horse and greyhound racing should also be transferred from the Home Office to the renamed department, as should responsibility for the BBC World Service which at the moment is held by the Foreign Office, the MPs said.

## Subsidy for N Ireland utility

The government yesterday announced details of a £16m (\$24.48m) subsidy for Northern Ireland Electricity, the privatised utility. It represents the first tranche of a £60m programme over 3 years, to offset the rise in electricity prices in Northern Ireland, which are around 23 per cent higher than the UK average.

The move to provide support to a privatised utility was cautiously welcomed by Ofgem, the Northern Ireland electricity regulator, and follows a critical report last December from the Commons Northern Ireland committee. The price subsidy announced yesterday will be paid to NIE to reduce tariffs by around 3 per cent, bringing the current electricity price rise down to around 2.3 per cent for 1996-97.

## One-day strike at offshore yard

Discussions are under way to resolve a dispute which on Monday triggered an unofficial one-day walkout by 900 workers from Amec Process and Energy's offshore fabrication yard at Wallsend in north-east England.

The unofficial strike was the first industrial action at the site, which employs 2,500 workers, since radical changes in pay and conditions were agreed nearly a year ago. Over the past year the facility has won orders worth around £200m (\$306m).

## 'Cheaper' commuter fleet renewal proposed while pressure mounts to reroute freight line

By Charles Batchelor, Transport Correspondent

Up to 2,000 ageing commuter trains could be modernised for a quarter of the cost of building new ones and given a further 15 years of life under proposals launched yesterday by a rolling stock manufacturer.

Mr Sig Svärd, chief executive officer of ABE-Daimler Benz Transportation (Adtranz), said the proposals meant the newly privatised train operating companies would be able to afford to upgrade their fleets at an acceptable cost.

Rolling stock manufacturers are placing increasing hopes in the prospect of refurbishing

old trains because they do not expect a significant volume of orders for new ones. It is nearly three years since a new train order was placed in the UK.

Mr Svärd said modernisation would cost about £250,000 (£382,500) per carriage - for the type known as Mark 1 - compared with £1m for a new one, although rail industry managers said this costing was optimistic.

Adtranz would take 25-year-old rolling stock and replace the steel bodies with aluminium, on top of the original wheels and underframe. The new trains would have crumple zones to absorb impacts

and anti-climb devices to prevent carriages riding up and sliding through each other in a crash. "Slam" doors would be replaced by electric doors and interiors would be redesigned with safe, fire-proof seats.

A decision to go ahead with Adtranz's proposed modernisation would depend on the train operators and the rolling stock leasing companies jointly agreeing to finance the upgrading. The leasing companies would extend the life of their assets and could charge the train operators slightly more for leasing the trains.

But the increase in charges would only be "marginal," Mr Svärd said. In part this would be because the rolling stock companies are rewarded for making safety improvements by the government.

Most of the Mark 1 trains run south of the river Thames with 540 operated by Network SouthCentral, recently acquired by CSEA, a French transport group; 440 by South West Trains, now part of the Stagecoach bus group; and 380 by South East Trains, which has yet to be sold.



A group of municipal authorities in London is stepping up its campaign to reroute Channel tunnel freight trains away from the centre of the capital on to an under-used line running to the south-west of London, Charles Batchelor writes.

The activities of the London Channel Tunnel Group have been given additional urgency by proposals for a dedicated freight route to be built partly in tunnels under London and by growing congestion on existing routes through the capital. A Department of Transport assessment concluded that improving the line was not a viable option. But this study did not take account of the problem of capacity constraints and put too high a price tag on the work which needed doing, the tunnel group said. "The relative success of the Channel tunnel rail freight activity is already suggesting that capacity constraints will soon become a problem," the group added.

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## OBITUARY

It is with deep regret that we have to announce the death on June 29th 1996, as a result of a tragic accident, of the long-serving Chairman of Veba Oil Operations B.V.,

**Mr. Salem A. Farkash**

Mr. Farkash was 60 years old. He had been Chairman of Veba Oil Operations since 1980. With enormous commitment he played a decisive role in the development of Veba Oil Operations into one of the leading oil companies in Libya and led the company with great skill through a difficult period.

His distinguishing characteristics were not only great experience, an understanding of people, a marked sense of responsibility and dependability, but also his untiring work for the company and its employees.

It is with profound gratitude to Mr. Farkash that we take our leave of him. We shall honour his memory.

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The Board of Management, Works Councils and Employees



BUSINESS AND THE ENVIRONMENT

Caspar Henderson on the potential offered to developing countries

# The solar revival

Rumours of the stillbirth of the solar industry have been much exaggerated. Nevertheless, even its most optimistic supporters admit that it has failed to generate much success in two areas where its potential ought to be greatest.

In large plants supplying power to national grids, and stand-alone schemes for the more than 2bn people who do not have access to a grid, electricity produced by photovoltaic (PV) cell technology has until recently not been considered feasible without subsidy, or at least the removal of subsidy from rival generation technologies.

But this perception could be about to change. Where communities are more than a few miles from a national grid, PV systems can already provide the most cost-effective solution for basic energy needs. "The barriers are no longer technical," says Jenny Gregory of the US consultancy IT Power. "The problem is attracting capital."

In a book\* to be published this autumn, Gregory writes that successful models for standalone solar power projects already exist in the Dominican Republic, Honduras, Sri Lanka, India and elsewhere. In virtually every case, though, international seed funding was essential.

India, the Rajasthan State Electricity Board has signed a 25-year power purchase agreement with Amoco/Enron Solar for power from an array to be pumped directly into the grid. Construction is scheduled to begin soon on a plant in the Thar Desert for supply of 50MW in the first instance and possibly 150MW in subsequent years.

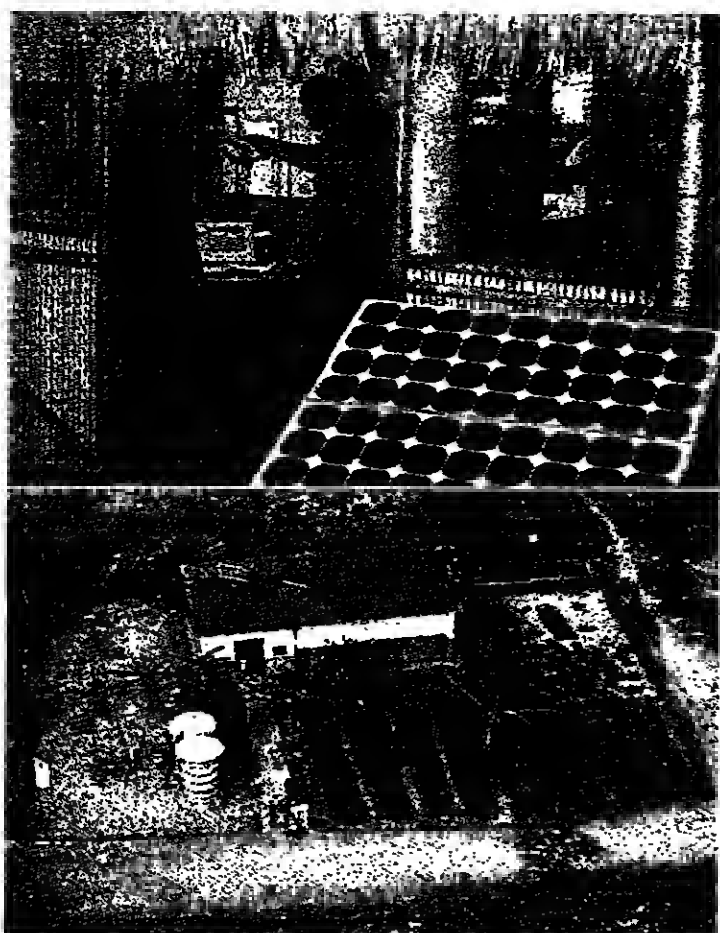
In China, Amoco/Enron has signed an agreement with the State Science and Technology Commission for a joint feasibility study for a solar cell manufacturing centre and 150MW generating facility.

"We think there is a great big market out there and we are going for it," says Bob Kelly, executive vice-president of Enron and co-chairman of Amoco/Enron Solar, a joint venture between Amoco, the US oil company, and Enron, North America's largest natural gas company.

While the Rajasthan project will meet only a tiny fraction of India's energy demand, it could set an important precedent for solar power to a national grid at truly competitive prices. With India's economy apparently in the early stages of "take-off" (GDP grew by about 6 per cent last year, energy use by 7 per cent) and a population projected to overtake China's, choices made now will reverberate far into the future.

As in other rapidly growing countries, energy use per dollar of GDP in India is high compared with the US and western Europe. So, until there are greater incentives for energy efficiency, enormous amounts of power will be needed to fuel growth.

A recent study by Kleinfelt Benson said that maximising domestic coal stock use and minimising expenditure on foreign oil and gas would make the best economic sense for India. But the study does not account for the cost to the environment and Indian society of fossil fuels used on the predicted scale.



A model of a solar-powered bamboo home (top) and a working PV system in Brazil

technology can deliver power virtually without pollution and without heavily burdening the balance of payments of a country that has to import fossil fuels.

Unlike large-scale hydro-power projects, it is seldom likely to cause severe disruption. Damage to the ecology of desert regions that suit solar arrays best is unlikely to be significant, and few people live there. Bhatnagar Singh Skekhwat, Rajasthan's chief minister, estimates the state could easily generate 10,000MW of solar power. Finance for the Rajasthan plant, which could cost about \$100m (\$64m), has yet to be finalised. A proportion of the equity capital will come from Amoco/Enron itself.

Kelly says the company is still negotiating with the Global Environmental Facility, a fund set up after the Earth Summit in Rio in 1992 and administered by the World Bank to encourage initiatives mitigating greenhouse gas emissions.

operates for renewable energy projects - is indicative of an outlook that has put India on the road to becoming the first country outside the OECD with large-scale solar power at commercial rates.

Renewable energy technologies are set to boom in India, according to Vijay Bektivatsalam, the agency's director. By 2015, he estimates, the country could have 16,000MW on line - or 8 per cent of total generating capacity.

But the agency remains cautious about the role of solar power in the total renewable energy mix. Although it agrees that solar has by far the greatest potential in the long run, it envisages only 10MW-15MW coming on line in the country each year until 2015. The next few months in Rajasthan could determine whether a very different scenario emerges.

\* Financing Mechanisms for Renewable Energy Systems: A Guide for Development Workers. Jenny Gregory. To be published by IT Publications (Tel +44 (0)171 436 9761) this autumn.

Previous articles in this series appeared on June 5 and 12.

Viewpoint - By Ronald McLean and Jonathan Shopley

# Green light shows for corporate gains

Dow Chemical aims to show that investment can bring high returns

When Dow Chemical announced recently that it planned to invest \$1bn (\$645m) in new environmental equipment and programmes during the next 10 years, the real news was not the size of the proposed expenditure but the company's prediction that it would make a return of between 30 and 40 per cent on its investment.

For several years observers in the business community have been saying that companies can enjoy tangible gains from environmental initiatives. But solid evidence of these benefits - the kind of proof that wins the confidence of corporate decision-makers - has been slow in coming.

A recent survey by Arthur D. Little, the international consultancy, found that companies often face a barrier between their business activities and environmental functions, which stops them realising any associated benefits. Of 185 North American companies surveyed in a range of industries, only 4 per cent reported that they treated environmental issues as a fully-fledged part of business management.

More than 70 per cent said the main obstacles to progress on such issues were the separate professional culture of environmental management and the inability of business managers to see environmental management as a business issue.

These companies are contending with a corporate "split vision". The business vision is active and positive, focusing on growth and profitability, but the environmental one is passive and negative, concerned with satisfying regulators and appeasing environmentally-conscious customers and pressure groups. Because of this split vision, companies often perceive environmental actions as barriers

to business growth, not opportunities for success. The good news, as companies such as Dow are showing, is that the split vision is not inevitable. Those that bring together their environmental and business visions may gain substantial bottom-line results.

Xerox, for example, launched a programme in 1991 to lower costs across its product life cycle. Partly in response to proposed product take-back legislation in Germany and other parts of Europe, it explored relevant activities, including product recovery, disassembly, and remanufacturing or recycling. It discovered that its copiers had considerable residual value - in numerous components that last far longer than the product as a whole. As long as the company simply allowed old copiers to be disposed of, that value was lost.

After Xerox launched its take-back initiative to recapture and remanufacture parts for use in new products, it achieved almost immediate results. In its first year, the initiative increased the company's net earnings by \$50m as a result of lower manufacturing and raw material costs and reduced inventory charges. Recent calculations put the initiative's total contribution at about \$200m for a three-year period.

For Baxter International, packaging is one area where a combined focus on business and environmental goals is winning benefits. After a task force was set up by the company's cardiovascular division to reduce the per-unit weight of packaging by 15 per cent, it looked for options that cut packaging and cost without raising prices or inconveniencing customers. As a result, one material was replaced by another that eliminated the need for one layer of packaging and was more easily recyclable, saving \$2m annually.

Bristol-Myers Squibb is getting sustained results conducting life-cycle reviews of all existing products and expects to complete the process, which began in 1993, by 1997. In each review, an employee team representing a range of business areas and skills use product life-cycle analysis tools to identify environmental advantages and cost savings. To date, with more than half the reviews completed,

Bristol-Myers Squibb has identified average savings of \$300,000 on each review.

Despite success stories such as those, many corporations continue to question whether such performance gains can be repeated or sustained. Examples abound of environmental initiatives that began with a great fanfare and then fizzled out.

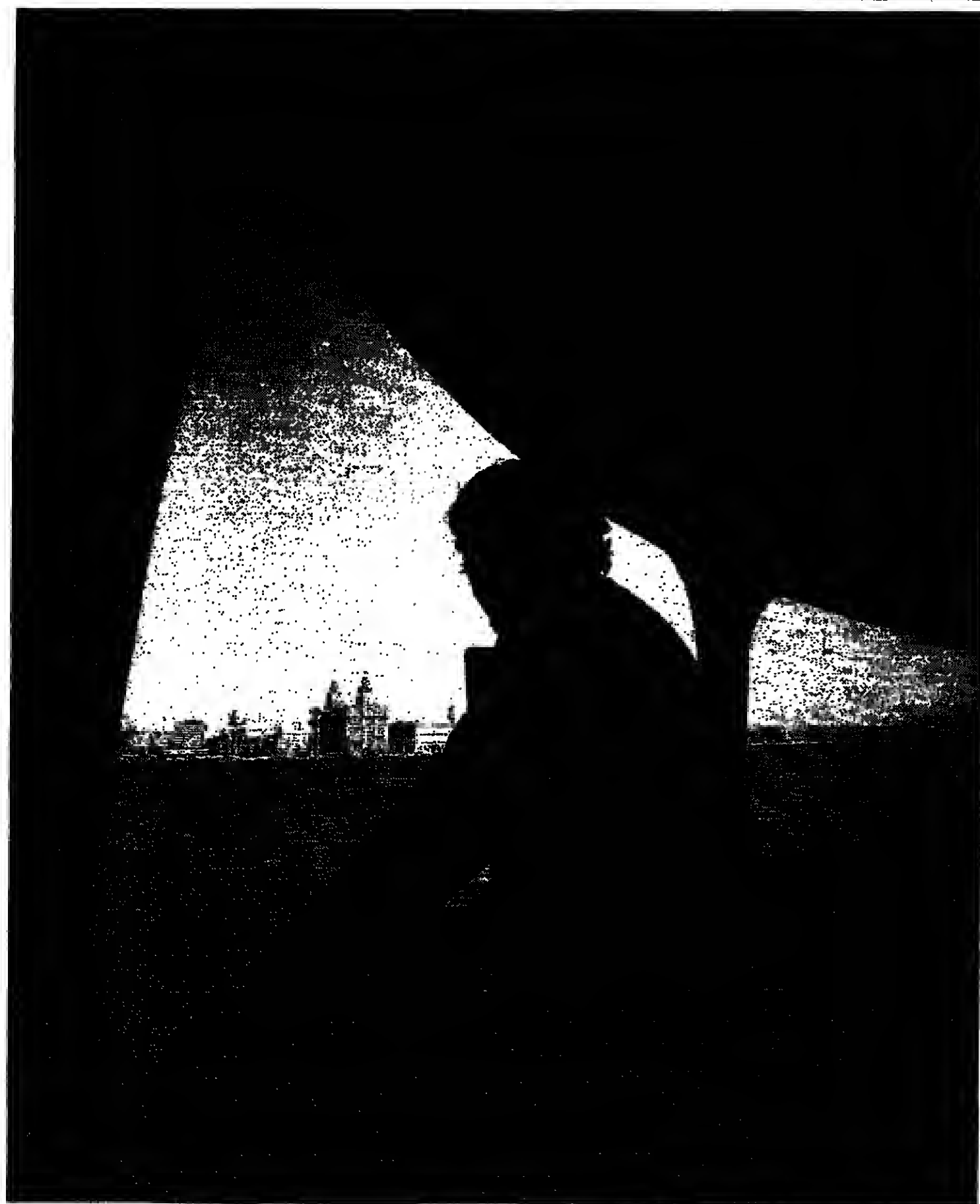
One critical factor is building management support by proving the environmental initiative will work. Despite conventional wisdom, many successful programmes did not start with senior management support driving them. Instead, they demonstrated success in one business area, then used those results to interest senior management and spread the programme through the company.

It is equally important to recognise and address how much environmental managers have worked in isolation from business concerns. Even the best managers - trained in technical, engineering, and scientific disciplines and accustomed to keeping the company in compliance with complex regulatory codes - may not be skilled in business basics.

To work effectively with business staff on environmental initiatives that offer paybacks, most of today's environmental managers need to acquire skills for framing environmental issues in business terms and communicating their bottom-line value. They must state objectives clearly and provide tangible measures of results. Baxter's packaging initiative succeeded in part because the goal was familiar and compelling to business managers: to meet or exceed customer expectations while reducing costs.

Through approaches like these, leading companies are reshaping the relationship between business goals and environmental activities. They recognise that only limited results can be won by demanding that business staff should meet environmental obligations; instead, they let the recognition of business value drive their environmental efforts.

Ronald A.N. McLean and Jonathan B. Shopley are based in Brussels at Arthur D. Little's European Environmental Management practice.



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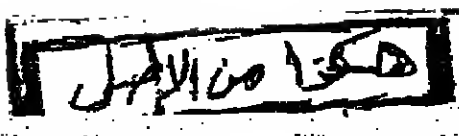
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Zinc stoats - and the Prix Italia

A thousand business cards are exchanged, a lake of Naples' lemon liqueur is consumed on top of a mountain of fritura di mare, promises of co-production money are made with all the passion of a teenage summer love affair - and the 48th Prix Italia broadcasting festival is over.

Italy itself, went to Return To The Dying Rooms, a horrifying account of cruelty to children - particularly girls - in Chinese orphanages made by the UK's Channel 4. Shot on a hidden camera, it shows appalling scenes of children and even babies lashed all day to combedes with the sort of ties you see in caged animals.

The Prix Italia for television drama (32 entries) was won by HRT of Croatia with Ispriani, translated as 'The Washed Out', a story about the difficulties, emotional and practical - where do you make love when your family shares a two-room flat with a refugee? - of young people attempting to begin their lives in a society which has been literally and metaphorically smashed to pieces.

said to have been so far ahead of its time that nothing else like it was heard until the coming of Wagner. Whether or not you like his work (and you might think that 16th-century Italian music had been doing pretty well without Signor Gesualdo), some of us found the style of the programme with its jocular pursuit of ghosts somewhat trying. The special prize was awarded to the BBC's Enter Achilles, a television version of the latest stage production by the excitingly different all-male modern dance company DV8.

award prizes to one another, may question the significance of such a record, and their doubts might be strengthened by the scepticism of some insiders. Back in the 1960s Gos MacDonald, now a big wheel in Scottish Television but then a simple left-wing programme maker, dismissed the entire panoply of Silver Swallows, Golden Roses and Bronze Bears as "zinc stoats".

Most important of all was the simple rule: in any category an organisation could have either a programme or a juror but never both. As a result, the bad smell which hung around so many festivals where jurors helped award prizes to programmes from their own companies, was absent from the Prix Italia. But the Italia organisers do not seem to have realised how centrally important these arrangements were in earning unique prestige for their event.

television drama being awarded to Danmarks Radio by a jury whose chairman came from Danmarks Radio. These may be the most honourable individuals in the history of the world, and the programmes in question the most deserving. The point is that under the old rules nobody ever had to even wonder about individual integrity because the system itself had integrity built in.

Of course what matters most is to have the evidence put before the world that, whatever the popularity of soap operas and programmes of home video clips showing bridesmaids tripping over their dresses, there is still a large quantity of worthwhile television being made in countries as diverse as Japan and Poland, Canada and Hungary, Brazil and Switzerland.

Theatre/Alastair Macaulay

The Aspern Papers

There is one astounding incident in the current revival of The Aspern Papers - the 1959 stage adaptation of the Henry James story by Michael Redgrave - which demonstrates to perfection how a live performance can flourish a classic work of fiction. It occurs in the middle of the play, and it is of all things - a song. The aged Juliana Bordereau has commanded her plain and no longer young niece, Miss Tina, to sing to her lodger, Henry Jarvis, an old song, 'The Green Hussar', which Miss Tina used to perform sweetly in her youth and whose words had been written by an unnamed poet of Miss Bordereau's youthful acquaintance.

heart of the play. At the end, as Miss Tina opens the trunk containing the Aspern papers, she comes across a green hussar's uniform; and the tiny pang she experiences is conveyed by Gordon with eloquent economy.

There is little other reason to see this staging. Instead of the original features and brilliant narration of Henry James's story, Redgrave's adaptation - certainly as directed by Auziol Smith - keeps reminding you of several other stories. In particular, The Aspern Papers seems here heavily derivative (as it is not when you read it) of The Queen of Spades: the old lady with a secret, the obsessive younger man, and the niece caught between them.

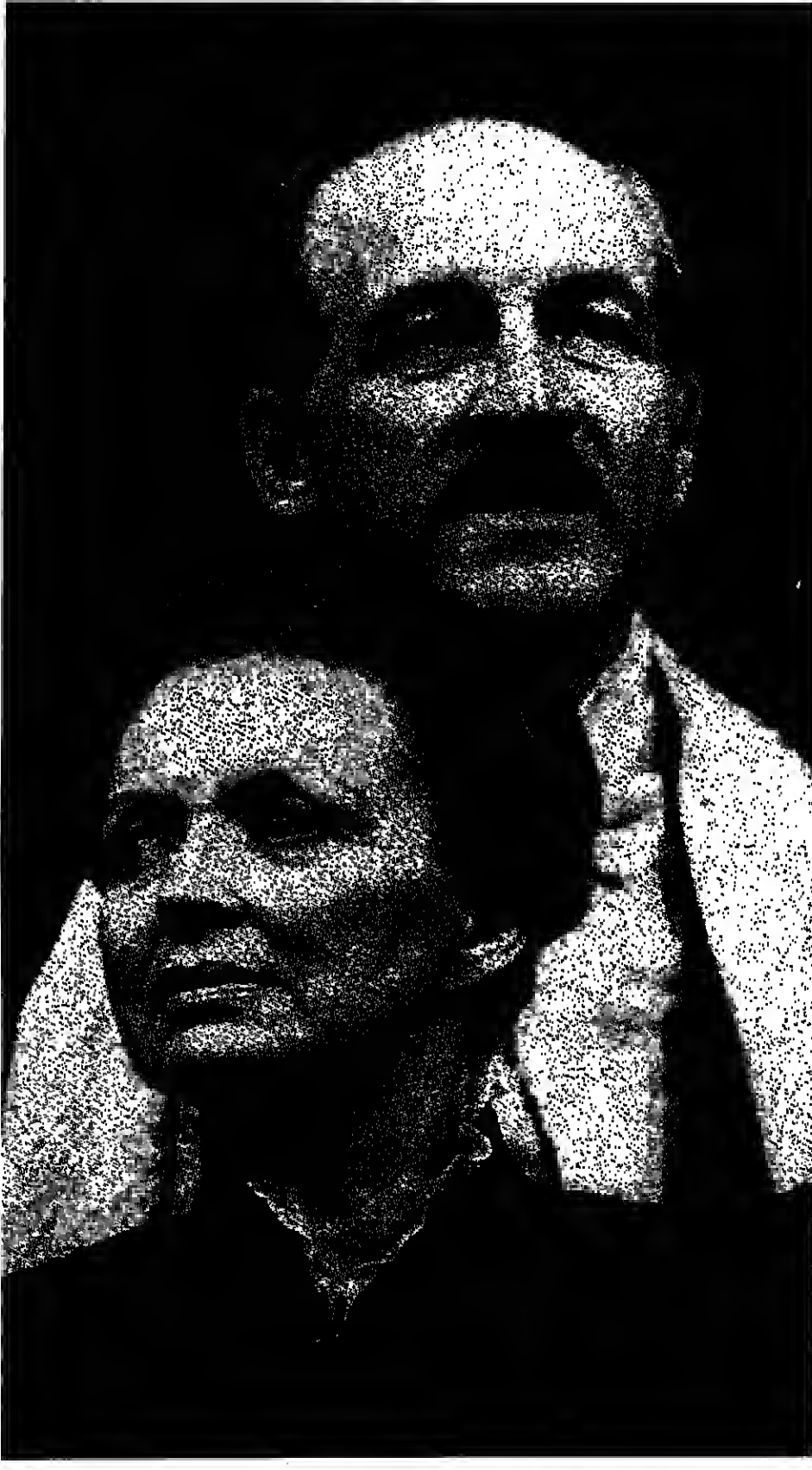
The song itself, sung unaccompanied, is deeply charming, with the flowing lines and little flourishes that mark such Irish folk songs as 'She Moved Through the Fair'. And as Miss Tina sings it, you hear in her not only her current tentative-ness but also a lightness and youthfulness of voice that surprise you - though these things sound now carefully preserved, as if in tissue. You even hear the governessed correctness with which she must have learnt the song. As the song continues, its stillness and beauty exert a potent spell as they must once have done back in the days when Miss Bordereau was still a great beauty and had a great poet's love. Sung again now, it also hints now at the feeling that Miss Tina hopes may be dawning between herself and Jarvis.

The old Miss Bordereau, played with staid flamboyance by Maria Lister, ends the second act by advancing on Jarvis with her stick, calling him "Publishing scoundrel!", and then collapsing in a heap. (Curtain.) Not long before, she has had a contrived little mad scene of revealing memories and fantasies - which Lister rattles through with a foolish briskness that destroys its impact.

Hannah Gordon, who plays Miss Tina in this revival, has surely done nothing better. Much of her accomplished performance is along the lines of Olivia de Havilland's celebrated film performance of another frustrated Jamesian spinster, Catherine Sloper, heroine of The Heiress. The romantic hopes and doubts of the character are visible in her eyes, and she makes Miss Tina's charm and inhibition apparent in equal measure. But the song is something else. Revealing things in Miss Tina and in Hannah Gordon we had not known, it becomes the beating

Daniel J. Travanti judges the quasi-English accent of the American critic nobody but the second act by advancing on Jarvis with her stick, calling him "Publishing scoundrel!", and then collapsing in a heap. (Curtain.) Not long before, she has had a contrived little mad scene of revealing memories and fantasies - which Lister rattles through with a foolish briskness that destroys its impact.

Sean Cavanagh's set does a good deal to make us believe we are in a fading old Venetian house. Some poor stagehand is kept busy on an old wind machine during a storm - when he is not making the shutters bang to and fro. Meanwhile we have a continuous view of the garden, most of whose many leaves stay mysteriously unruffled by the gale.



Romantic hopes and doubts: Hannah Gordon and Daniel J. Travanti

Theatre/Ian Shuttleworth

A restless Richard

Seven Pimlott's production of Richard III, greeted with much head-scratching last autumn at Stratford, remains a bewildering hotch-potch. It boasts both narrative and linguistic clarity (necessary but rare for Shakespearean histories), and a number of central performances which, whilst majestic, convey curiously little sense of majesty. And at its centre is David Troughton's interpretation of Richard Crookback of Gloucester as the consummate performer: the scene in which Richard is pressed to accept the crown is played as a blatant piece of stage management.

as a variety of courts and council chambers - also contains an arena demarcated as a kind of limbo. Here the ghosts of those unfortunates despatched by Gloucester periodically congregate; Queen Anne's death is signified by Rachel Sanders walking with slow resignation from the court into this shaded quarter, a move later repeated by Richard himself after the battle of Bosworth Field. The battle is not presented at all: Richard crosses an empty stage to sit in darkness, slowly and ironically applauding Henry of Richmond's closing victory speech.

This Richard never switches off: he is always assuming a role, always delivering lines rather than speaking words. Dressed in flaming red, he aims for the implicit appeal of the Vice in a medieval morality play. The net effect is that tragedy is something which happens, if at all, around Richard rather than to him.

There are few earlier hints that even this capering monster may have a conscience, notably in conflicts with his mother (whom, unfortunately, Diana Coupland renders as more petulant than wrathful), though to all intents and purposes Richard's despair comes out of nowhere. The supernatural dream on the eve of Bosworth is staged with Richard and Henry sitting side by side at a council table as the succession of shades file in to damn and bless them respectively, but the scene remains

Niche marketing has ensured the Luftansa festival a corner of its own in the crowded June diary of London music. It always keeps to its Baroque theme, and has decided to restrict its activities to its main venue, St. James's Church in Piccadilly. This year there are a dozen events, supplemented by free lunchtime recitals by young artists. As the festival has progressed, the dominance of the early music movement by British and Dutch groups has given way to a broader range of activity within Europe and that is reflected in this year's programme, which includes a return visit by Musica Antiqua Köln and appearances by Musica ad Rhenum and the Italian Accademia Bizantina.

mechanistic when it should be potent, the audience has been shown hardly any indication of a "real" Richard, and so does not engage with his downfall. Michael Siberry makes a noble, lyrical Clarence, and Paul Bantall's Hastings is one of the few loci of humanity; moreover, Richard's outburst against Hastings, sending him scurrying under the table, is virtually the only occasion on which we see his malevolence unbridled. John Nettles grows and looms obligingly as Buckingham, but to my mind Nettles on stage is always visible doing acting, Rachel Sanders is handiapped as the Lady Anne in that she is never able to make the dramatic running.

The home team is led by the St. James's Baroque Players, the festival's resident group, whose prime performance this year was Handel's oratorio, or "bawdy opera", Semele. No matter that we had recently

Further events in the Luftansa Festival tonight and tomorrow.

Music

Lufthansa Baroque

seen it staged at Covent Garden. Ivor Bolton's cocoon performance had a quite different feel about it, mainly because he tailors his swift speeds and light-fingered style to suit the church's relatively intimate acoustic.

Given the uniformity of style that he imposes on his excellent musicians, Bolton had chosen an unexpectedly mixed cast of singers. At the "authentic" end, there were Ruth Holtoo as a light, flutish Iris and Nancy Argenta, a pure-voiced though stronger soprano as Semele, in the opposite corner were Della Jones's truly operatic Juno, wickedly overplaying her chest register, and Alan Ewing's sonorous Cadmus. Paul Agnew sang "Where'er you walk" with

Richard Fairman

Further events in the Luftansa Festival tonight and tomorrow.

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Edward Mortimer

## Exit the atomic age

Nuclear weapons could be reduced and eventually abolished if the countries that control them bury their differences

Nuclear weapons are yesterday's issue. There are no longer two superpowers poised to destroy each other and the rest of us at the touch of a button. Iraq has been disarmed. North Korea has been bought off. The Non-Proliferation Treaty has been extended indefinitely. Mr Tony Blair, leader of Britain's Labour party, says he would press that button if necessary, but no one any longer imagines that a British prime minister would ever have to take such a decision.

Consensus reigns, right? Wrong. Negotiations on a comprehensive test ban have just broken up without agreement; and next Monday the International Court of Justice in The Hague will deliver a long-awaited advisory opinion on the legality of using nuclear weapons or even threatening to do so.

Its opinion on this matter has been requested not by some ad hoc bunch of crackpots but by the World Health Organisation and the UN General Assembly. Forty-three governments have made written submissions, and 22 made oral statements during public hearings last autumn. More than two-thirds argued for illegality. But four of the five recognised nuclear powers urged the court to make no ruling, arguing in effect that the issue is political, not legal. (The fifth, China, has taken no part in proceedings.)

It will be surprising if the court, generally a cautious body, comes out with a ruling that in effect criminalises the world's most powerful governments. But the issue is a tricky one. Chemical and biological weapons have now been banned outright, and the indiscriminate killing of civilians with any sort of weapons is condemned under the Geneva conventions. Next door to the court in The Hague, an international criminal tribunal established by the UN security council is busily prosecuting people accused of war crimes in former Yugoslavia, while in Arusha,

Tanzania, another is dealing with those responsible for the 1994 genocide in Rwanda. Defence counsel for the accused could argue that their crimes pale into insignificance beside the utter devastation of humanity which use of nuclear weapons would cause.

The issue is related to the test ban talks, which broke down because Britain, Russia and China, along with Pakistan, insisted that the ban could come into force only when ratified by all eight known nuclear powers - the five recognised by the treaty plus the three states (India, Israel and Pakistan) which have not signed the treaty and are deemed to be on the "threshold" of nuclear status. India has served notice it will not accept the test ban unless the five declared nuclear powers agree to a timetable for total nuclear disarmament.

On one level, India's stand is unrealistic and exasperating. Tactically, it has succeeded in provoking an argument among the declared nuclear powers: the US and France would accept a compromise allowing the ban to come into force before India ratifies it, while the other three, with Pakistan, are standing firm.

But the issue should not be

reduced to mere tactics. The end of the cold war has made possible a serious discussion about the future of nuclear weapons, and in the US that discussion has begun. The Henry L. Stimson Centre, a Washington think-tank named after the US secretary of war under whom the atomic bomb was first developed, is running a project "to encourage serious consideration of the conditions under which all states might move toward the progressive elimination of all weapons of mass destruction".

The project's steering committee is chaired by Gen Andrew Goodpaster, a former supreme allied commander in Europe. It includes three other senior retired generals and such luminaries of the US defence scene as Robert McNamara (secretary of defence in the 1960s) and Paul Nitze (arms control negotiator for successive administrations from Truman to Reagan).

Its second report, published last year, sets out a four phase strategy for eliminating nuclear weapons. In the first phase, which could be completed by 2008, the US and Russia would bring their arsenals down to roughly 2,000 warheads each (below the level already agreed in the Start II treaty). In the second,

all five declared nuclear powers would come down to a few hundred warheads each, while the threshold states would be enticed out of the closet to join in the process of multilateral reductions.

In Phase III all remaining arsenals would be cut to tens of weapons, held under international safeguards; regional and global collective security regimes would be developed; and nuclear powers might agree to become "trustees" of nuclear weapons, forswearing first use but threatening to respond to any nuclear attack against any state.

Finally, in Phase IV residual arsenals would be eliminated. Capability to reconstitute them would be internationally monitored, and all materials or knowledge relevant to weapons of mass destruction would be placed under stringent control. The US and other former nuclear powers would keep components of their former arsenals under international safeguards. (The storage sites would have to be numerous and dispersed, and the verification regime strict enough to ensure that no violator of the ban could amass enough nuclear weapons to destroy all the sites without being detected.)

This programme would take several decades to implement. Each phase could only begin when the previous one was clearly seen to have worked. No one imagines that nuclear weapons can be wished away overnight. But that does not mean we must resign ourselves to living with them forever. The greater danger is that, by refusing even to contemplate a programme for doing away with them, established nuclear powers will appear to be relying on them to perpetuate an unequal international order, in which some states are entitled to greater security than others.

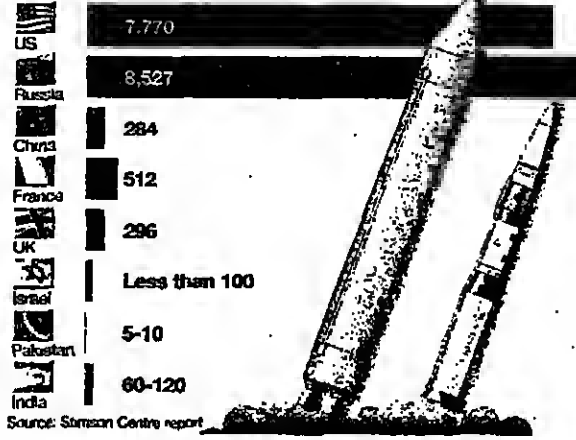
In such a world, no non-proliferation treaty can hold indefinitely, whatever it may say on paper.

\*21 Dupont Circle NW, Fifth Floor, Washington DC 20036.

### The nuclear club

Declared and undeclared powers (January 1995)

Approximate size of arsenal (numbers of stockpiled strategic warheads)



Source: Stimson Centre report

## LETTERS TO THE EDITOR

Number One Southwark Bridge, London SE1 9HL

We are keen to encourage letters from readers around the world. Letters may be faxed to +44 171-873 9938 (please see fax to 'fine'). e-mail: letters.editor@ft.com Translation may be available for letters written in the main international languages.

### No miracle for the poor in China

From Mr Paul Spray.

Sir, "The World Bank's World Development Report on economies moving from plan to market" ("Rapid liberalisation is starting to pay off", June 28) sits uneasily beside received wisdom on the east Asian miracle. Chinese growth continues to be extremely rapid, but this report suggests that since 1985 it has stopped reducing poverty.

One reason is that the state has halved its role - from 36 per cent of gross domestic product in 1978 to 18 per cent in 1994 - and cut transfers from wealthier to poorer regions. At a local level, health and social services have suffered. The message from the Bank seems to be more plan and less market.

Paul Spray,  
policy director,  
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### A serious purpose

From S.D. Sandell.

Sir, The conferences on family policy which Vice-President Al Gore has organised and moderated each of the last five summers may sound ridiculous to Patti Waldmeir ("Family values put Clintons back on moral high ground", June 25), but their purpose is deeply serious - to focus on issues which affect the family, in all of its manifestations, on the basis that this is the social unit which provides far and away the most profound support and launch pad for our future citizenry and workforce. This year's conference addressed work and the family; your correspondent presumably is aware of the extent to which corporate policy and legislation - and not only in the US - is evolving to meet the demands of working parents.

Perhaps the informality of the conference was deceptive; nonetheless Ms Waldmeir's sarcasm does a disservice to a serious journal such as yours.

S.D. Sandell,  
17 Greyhound Road,  
London W6 8NH, UK

### Unlikely that the European central bank would be able to intervene

From Mr William L. Jacobson.

Sir, I agree with Manfred Neumann ("The ins and outs of Euro", June 28) that the idea of putting an intervention obligation on the European Central Bank is ill-conceived. But his contention that the absence of an intervention obligation would make a future exchange rate mechanism (ERM) more flexible than the previous one is unfounded.

In practice, the central bank would be no more likely to intervene without limit against a sustained speculative attack on a peripheral currency than was the Bundesbank. However, suspect the market's motive for such an attack, the price of fighting it - an early loss of credibility with respect to the inflation fighting credentials - would be far too high.

Mr Neumann's suggestion that the central bank be given the prerogative publicly to propose realignments is well taken. There is, of course, no guarantee that the parity it chose would cure a given economic imbalance - bureaucrats are often wrong. But so are markets.

The preferred modus operandi is surely one in which market and central bank respect and listen to each another. And, the UK authorities might find it easier to swallow the advice of the European central bank than they did the Bundesbank's.

This points to a structural reason why ERM II would be more likely to survive than the old ERM. There is a big difference between having a single country serve as the anchor and having seven or eight countries do so. Indeed, it

was only in practice that the D-Mark came to anchor the old ERM: in theory the Ecu was supposed to do so.

The dramatic Bundesbank rate hikes which so strained European monetary relations in the early 1990s were a direct result of the Kohl government's purchase of east German votes (great politics, bad economics). The Maastricht treaty, however, explicitly rules out any such fiscal thrust on the part of Ecu member states. Where tension arises between centre and periphery, it is therefore less likely that the monetary policy of the anchor will be its source.

William L. Jacobson,  
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### EU must act on airline competition

From Mr Per Stenmark MEP.

Sir, I appreciate Mr Austin Reid's comments (Letters, June 25) on what I wrote (Letters, June 19) about airline alliances. I also appreciate the clarification which Mr Reid made on code-sharing agreements. His comments are reassuring. However the main problem remains. Code-sharing with a great number of other companies, 11 in the case of British Midland, is a distortion of competition. It does not, in any way, increase competition. Take the example of the

proposed alliance between British Airways and American Airlines. Does that code-sharing agreement increase competition? I welcome the European Commission's decision to look into the proposed alliance between BA and AA and also to take a good look at alliances that already exist. The European Union must take action, not only by encouraging competition through tougher rules regarding airline alliances, but also by increasing competition

in the area of ground handling at airports and creating new rules for airport charges. New rules on slot allocation and air traffic management are also urgently needed. Combined with the deregulation scheduled for next year these improvements would increase competition and result in lower fares.

Per Stenmark,  
member, transport group,  
European parliament,  
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### Put warning label on management fads

From Prof Michael S. Minor.

Sir, The recent defection of Morgan Stanley chief economist Stephen Roach, the "guru of downsizing", to the position that management may have cut employee ranks too deeply is a relief to me as a business school professor. I never spent much time on downsizing in the classroom. Now I won't have students feeling that I have misled them.

Lucky me for avoiding this fad. But it brings up the deeper question of the appropriate role of business professors in showcasing all management "fads", especially at the graduate level, where students may be able to implement

circumspection is absent from business school introductions to new management practices whose long-term effects have not been judged. It is a cautionary note that the "tried-and-true", while perhaps less scintillating, and provoking less discussion, at least has the force of having worked.

Fads should be treated as such, and perhaps most importantly, labelled as such.

Michael S. Minor,  
associate professor of marketing and international business,  
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### Andrew Adonis

## The two faces of welfare



Can the welfare state be saved? The question is being asked across the developed world as policy-makers look at demographic trends and government spending projections and warn of dire straits ahead. Four years ago Bill Clinton the US president, took office pledging to "end welfare as we know it". That refrain is spreading from the US to western Europe, the cradle of the welfare state, where additional pressure to curb welfare spending is coming from the Maastricht treaty's rules on national debts and borrowing. For the French and German governments in particular, the establishment of a single currency goal. That involves spending curbs, and the political will is there to attempt them.

Welfare reform thus almost chose itself as the topic for the first meeting last weekend of the French and German governments in the Oxford Forum, a seminar of parliamentarians, senior officials and analysts from the US, Britain and Germany. The forum is designed to deepen mutual understanding beyond the strategic and security issues that preoccupy most such gatherings.

Most revealing was the contrast between the forum's opening paper and presentations and the subsequent discussion. "The problem of reconciling burgeoning welfare budgets with growing public deficits and dwindling workforces is large and cannot be ignored," noted the paper. From the initial statements it appeared that three things were agreed: welfare spending was unsustainable given demographic projections; a broad bipartisan consensus existed in each country about the need for change and its direction; and initiatives in one country could easily be translated to others.

All three dissolved in debate.

The implications of demographic projections showing barely two workers for every retired person by 2040 were hotly disputed. A German MP from the opposition Social Democrats argued that insurance contributions for health-care in Germany need rise only marginally over the next 15 years to cover the ageing population. After 2010 demographic change would impose significant new burdens, "but it would be wrong to sacrifice our socially oriented state through premature and possibly misplaced alarmism", he said.

Support came from the unlikely source of a British Tory minister who lauded the virtues of the UK's tax-financed comprehensive health service, noting caustically that alarmist projections about "unsustainable" growth in health spending had appeared every decade since its establishment in 1948.

It was soon clear that the delegates considered the predicament of each of their countries to be largely distinct from the others. British and American delegates gasped as the details of Germany's generous insurance benefits were explained. German unemployment insurance provides claimants with about 80 per cent of their previous income for one year and a somewhat lesser

"It would be wrong to sacrifice Germany's socially oriented state through premature and possibly misplaced alarmism about demography"

income-related figure for another two years. Then comes basic assistance without time limit, set at DM2,700 (£1,139) a month for a couple with two children. This is far in excess of the equivalent benefits available in the UK, let alone the US, yet German MPs insisted that only marginal adjustments were needed or politically possible.

To the non-Germans, the surprise was that German unemployment - at 9 per cent it is nearly two-thirds higher than the US rate and a little above the UK's - was not higher still. This provoked discussion of the importance of wider social forces in shaping welfare states, notably the effect of Germany's superior education system and work ethic in limiting abuse of what one US Congressman dubbed "the biggest scrounger's charter in history".

It was the turn of the Germans to be agast as US delegates explained the various proposals for "workfare" - work for social security benefits - being devised by US states for single parents. One US analyst predicted a "race for the bottom" in benefit levels as the federal government sought to withdraw from unemployment support.

"This is going back to the Middle Ages - beggary on the one hand and private charity on the other," a German MP declared. The British were divided. One Tory MP thought workfare was "right in principle and inevitable in practice", but the UK Treasury raised a host of practical objections.

It was not, however, a simple case of European resistance to American laissez faire. Both the British and Germans were surprised that relatively generous federal retirement pensions should be sacrosanct in the US, while other benefit levels are low and vulnerable and a national healthcare scheme seems an impossible dream. "It's pure politics - the elderly are untouchable," said a Congressman.

A dominant theme was

sharply differing notions of the realm of the possible in the three countries. A German analyst declared that welfare was morally repugnant and impossible to implement given cultural memories of forced labour and slavery.

A British minister responded by questioning German military conscription, which he described as an "impossible concept" in the UK. Yet in Germany it is critical to providing social services given the high proportion of young men opting for civilian service as an alternative.

Healthcare was the one significant area where delegates believed it possible to copy policies across borders. There were sharp exchanges between US delegates about the fate of the 44m Americans without adequate health insurance cover and the profits of the Health Maintenance Organizations responsible for providing healthcare to many Americans. So too between British delegates about the need for rationing within the tax-financed National Health Service as demand outstripped the readiness of governments to supply the necessary resources.

The German health system - managed competition between insurance funds providing comprehensive health cover, with employees obliged to join one - won considerable enthusiasm. One UK Tory MP saw it as an "excellent means of eliminating rationing by passing the cost from the taxpayer to the private sector without giving up central control".

But it was the differences, not the similarities, between the three welfare systems that made the strongest impression. When a US Republican Congressman claimed that welfare was "basically a matter of poor relief - a struggle between our hearts and our pocketbooks which depends on our revenues", the extremes of American individualism and German solidarity were fully exposed. The British, typically, came through the middle.

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FINANCIAL TIMES

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Wednesday July 3 1996

Keeping state aids in check

Yesterday's demand by Unice, the European employers' organisation, for tougher enforcement of EU rules on state aid to industry is to be applauded. The initiative not only focuses attention on a real economic problem but also suggests an encouraging shift in business opinion. In the past, few companies were ready to condemn government hand-outs from which they stood to benefit. Now, it seems, more are disposed to view such largesse as an insidious threat to fair competition.

pressures have repeatedly forced Brussels to retreat from its "one chance, last chance" doctrine on state aid to airlines. For those reasons, Unice's call for an EU regulation setting out clearer rules and procedures for vetting state aid looks politically realistic. Proposals for stricter judicial restraints on governments' pursuit of national interest stand to win little support in the Council of Ministers. Even member states which want an independent EU cartel office to enforce competition policy would keep state aid out of its clutches.

Oil's well

The recent development of the UK's North Sea oil has been a remarkable success story. The industry's ability to cut costs, increase production and add reserves has been much greater than was expected only a decade ago. Operators are making money from oil in hitherto inaccessible reservoirs, despite the fact that crude prices (adjusted for inflation) are less than a third of what they were in the early 1980s.

bidding before, most oil licences were allocated by a discretionary process. Under this system the government would evaluate oil companies' offers to explore a particular block of territory mainly in terms of the number of exploratory wells that each company said it would drill. The discretionary system gave the government a great deal of leeway over the offshore operators, and may have been justified in the early years. But the process was slow, cumbersome and opaque. North Sea operators have been forming much more flexible commercial relationships in recent years to exploit difficult fields at minimum cost.

Communists still

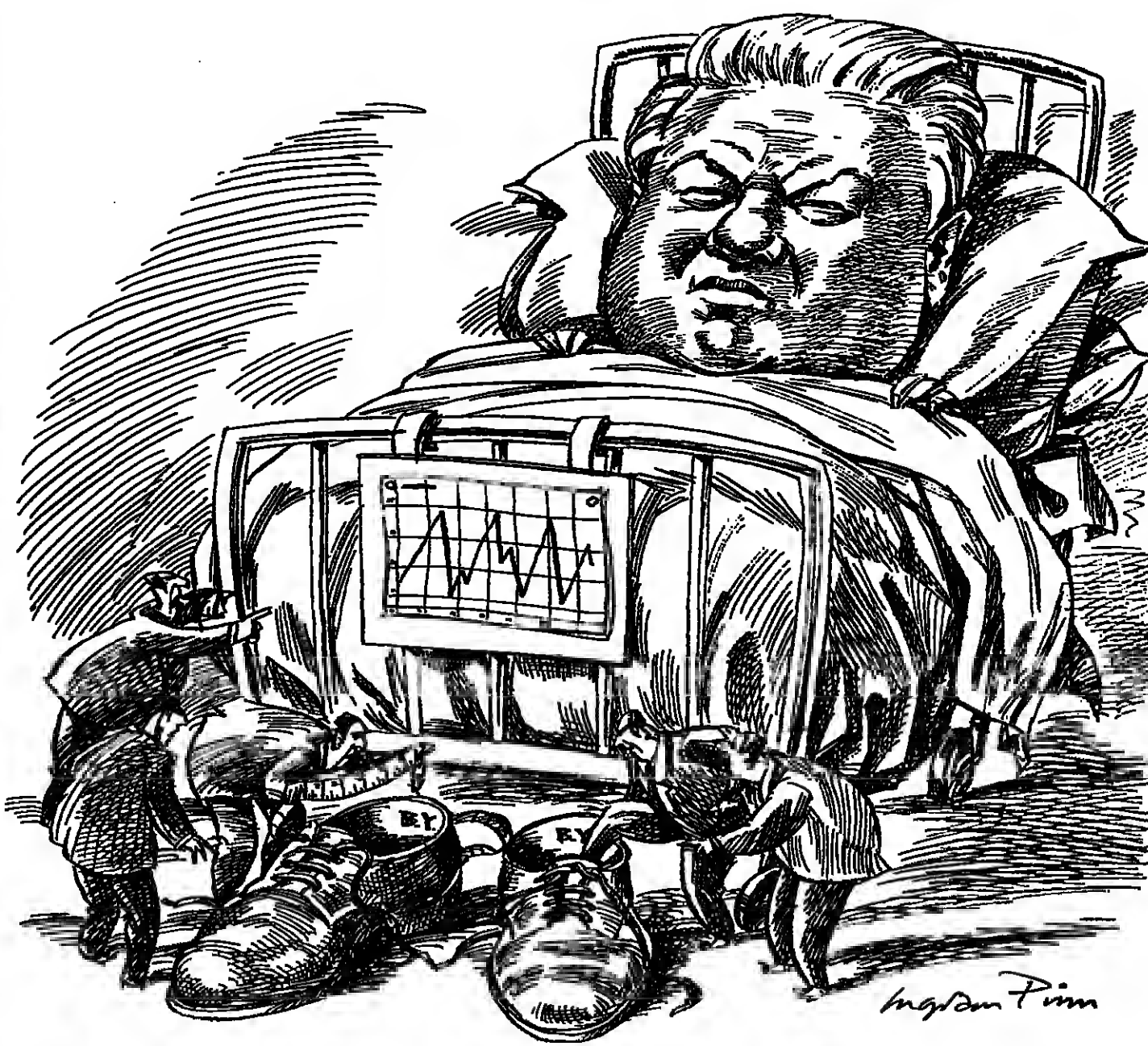
Only a year ago Vietnam was the darling of the international investment community. It had resumed relations with the US, stood on the verge of joining the Association of Southeast Asian Nations and embarked on a path of rapid economic growth which promised to make it the next Asian miracle.

between the entrepreneurial south and the more conservative north. The ageing leadership, which has retained power, is also deeply suspicious of younger generations. The next generation down grew up during the war with the US and is Soviet-trained. It will be a long time before the technocrats are ready to take over. Vietnam's new conservatism reflects a lack of self-confidence in the party. This was no doubt reinforced by an unprecedented objection from the congress floor in response to the old guard's effort to concentrate power in the hands of a committee of five members of the politburo.

Power brokers at the bedside

Boris Yeltsin is expected to win Russia's presidential election but the struggle to succeed him is already on the agenda, says Chrystia Freeland

When Boris Yeltsin was elected president of Russia in 1991, he assumed the position of the powerless head of a Soviet province. Only months later, the Soviet empire collapsed in disarray, and the Russian leader became, by default, the ruler of the Kremlin. Today, President Yeltsin is facing Russian voters in the first genuinely democratic election of a national leader in the country's history. And yet the celebratory mood which should have greeted this extraordinary achievement has been soured by the visit of an unwelcome spectre from the authoritarian Soviet past.



Mr Yeltsin has degenerated over the past week into a sickly and secluded figure, uncomfortably reminiscent of the geriatric Communist party Politburo bosses who ruled the Soviet Union in the bad old days. The man, whom millions of Russians had hoped to re-elect as the embodiment of the country's democratic future, has been skulking in his dacha outside Moscow, allegedly suffering from a sore throat. For Mr Gennady Zyuganov, the Communist challenger, the president's unexpected regression from an energetically flesh-preserving, street-dancing campaigner into the world's most powerful recluse has been a political windfall. The Russian leader's ill health has galvanised the Communist team into a frenzy of eleventh-hour activity as the comrades sense that it may still be possible to seize victory from the jaws of defeat.

even the most supine journalists cannot protect Russia's ruling elite from the worrying realisation that Mr Yeltsin might not survive until the end of a second four-year term. Thus, even before a single ballot has been cast this morning, Kremlin insiders have begun planning how to manage Russia's next succession struggle. The fight for power set off by Mr Yeltsin dies or is incapacitated after winning re-election. For a country, and a political elite, whose overwhelming desire is for stability, the prospect of facing another divisive contest for the Kremlin so soon is deeply unwelcome. Worse still, without the charismatic and unifying presence which Mr Yeltsin supplied in his more vigorous moments during this spring's election campaign, the present government could risk being defeated in a rematch against the battle-hardened Communists.

Many Kremlin power-brokers also harbour growing suspicions of Mr Lebed, the new head of the Security Council, who in less than two weeks has undergone a rapid political metamorphosis from outsider, to crown prince, and now to a suspect cuckoo in the nest. Mr Yeltsin welcomed him into the corridors of power last month in an effort to woo the 1m voters who backed him in the first round of the elections. But within days the maverick officer managed to alienate the authoritarian faction in the Kremlin by conviving in the dismissal of its leaders. Then, just as he seemed poised to become the democracy's new darling, Mr Lebed changed tack and horrified the liberal camp in the government with a series of nationalist comments so harsh as to provoke a public rebuke from US President Bill Clinton.

Mr Lebed's unpredictability and the fear that the Communists might prove unbecomingly if new elections were to be held within the next six months has created a strange paradox for Mr Yeltsin's entourage. On the one hand, the Kremlin team is desperate to beat Mr Zyuganov. To that end it has launched a vociferous anti-Communist campaign, featuring burning churches, footage of Stalinist labour camps and warnings of a return to the chronic food shortages of the Soviet era. But at the same time, Mr Yeltsin's allies have begun to prepare public opinion for a coalition government with the Communists after today's vote. Mr Victor Chernomyrdin, the prime minister, said this week that he would welcome opposition politicians into his cabinet and that he is "certain" they will accept the invitation. Mr Lebed, who recently told Russians of his genetic hatred of communism, changed his mind on Sunday and called for a grand coalition. The Communists seem equally prepared to abandon their fierce rhetoric and team up with their opponents after what they clearly regard as the messy formality of voting has been completed. Mr Zyuganov said last week that if elected he would form a broad coalition government and might even ask Mr Chernomyrdin to stay on as premier. Mr Aman Tuliev, one of the most prominent politicians in the Communist camp, went further, suggesting this week he would be willing to serve in a Yeltsin cabinet. All this has persuaded many Kremlin watchers that a coalition government is the most likely outcome of an election which Russian politicians - and many western observers - have sought to portray as a violent clash between two incompatible ideologies. "I am convinced that if Yeltsin wins, the ruling elites will bring the Communists into their government," said a western diplomat in Moscow. "It's the only way for them to avoid another messy succession struggle if Yeltsin doesn't last."

The talk of coalition-building is a reminder that western-style democracy is still a fragile and alien seedling in the soil of Russia's collectivist and authoritarian traditions. Since medieval times, Russia has been ruled from above by a class which allowed political conflicts to emerge only within the confines of a narrow elite. Any disputes which emerged in the rest of society were ruthlessly suppressed. Even the democratic breakthrough represented by today's ballot is not free from such traditions, as shown by the behaviour of the country's media, whose diversity and openness were once hailed as one of the great achievements of the post-Soviet revolution. Over the past few months Russia's most talented liberal journalists have leapt on to the government bandwagon, writing shamelessly pro-Yeltsin stories and cheerfully passing off Kremlin black propaganda as inside "leakage" about the Communists. Millions of the Russians casting their votes today have been given no information to suggest that one of the two candidates on their ballot papers is in such delicate health that he has barely managed to stumble through a single, tightly edited television appearance in the past week. Their choice may be free, but it will be ill-informed, and that will be the fault of a Russian liberal elite that prides itself on its "democratic" convictions. The media's willingness to conceal Mr Yeltsin's health problems in the name of freedom and democracy is a striking example of the curious hybrid of western ideals and Soviet habits which characterises post-Communist Russia. Mr Yeltsin is in many ways an apt leader for a nation still in a political limbo between its painful past and its dreams of a happier future. He may look disturbingly like former Soviet leader Leonid Brezhnev in the sclerotic final years of his reign. But, for the first time ever, the man who enjoys supreme power in the Kremlin is submitting to the verdict of the ballot box.

OBSERVER

Prodi gets hoodwinked

When battle-lines are drawn in Italy between the centre-right and the centre-left, the Italian media is rarely explicit between rich and poor. Hence Italian interest in comments at the weekend by Romano Prodi, prime minister of the new centre-left government. Prodi appeared to compare his government's economic policy to that of Robin Hood - in other words, taking from the rich to give to the poor. "The idea of the chubby Prodi kicked out in green tights and armed with a bow and arrow is only slightly more absurd than the picture of him in full treading kit which regularly appear in the Italian press, but his simile, nevertheless, struck a chord. The theme was adopted by Gianni Agnelli, honorary chairman of Fiat and subject of last month's scathing cover story in Panorama. Silvio Berlusconi's weekly news magazine, which asked "What use are the rich? Good question."

Waste disposals

A friendship that began eight years ago on a Florida beach has borne succulent fruit for Michael Ashcroft and Michael De Groot. Soon after meeting they forged a deal to turn Laidlaw, the Ontario-based waste and transport operator founded by De Groot, into the biggest single shareholder in ADT, Ashcroft's Bermuda-based security services and car auction company. Belgian-born De Groot quickly sold his Laidlaw stake for a billion dollars. He said he was retiring to Bermuda, but restructured as the head of Republic Industries, a fledgling waste-management outfit. Republic was fired up last August, when De Groot handed the reins to another friend and self-made entrepreneur, Wayne Hinzenga. Under Hinzenga, Republic has aggressively expanded. And as Republic's vice-chairman De Groot was on hand at this week's announcement that Republic has offered to buy ADT for \$5bn. The big loser in De Groot's deals has been the Canadian company he led for more than 30 years. Soon after he left, Laidlaw's management became embroiled in an acrimonious corporate governance dispute with Ashcroft. That unwelcome episode culminated in Laidlaw's selling its 24 per cent stake in ADT earlier this year for \$14.40 a share. Republic's offer values ADT at a cool \$25.

All yin, no yang

Two steps forward, one pace back. The Chinese foreign ministry has decided that holding bilingual press conferences (in English and Chinese) is a mark of unseemly deference to old colonial ways. From September, all will take place solely in Chinese. This will certainly come as a shock to the many foreign banks whose grasp of Chinese is not profound. Instead of thinking the foreign ministry merely inscrutable they will now find it's also become incomprehensible. Edmond Safra, one of the world's better known, least seen bankers, has placed a hefty bet on Monte Carlo. His bank, Safra Republic Holdings, has moved into Monaco's Onassis's old offices on Monaco's Avenue d'Ostende, next door to the Hotel Hermitage. Old Monte Carlo banks will remember the address. It's where the late Greek shipping tycoon used to cavoodle with Maria Callas. These days, recession-hit Monte Carlo lacks its former buzz; all the more intriguing that Safra, 64, is betting on its becoming a profitable financial centre. On Sunday night, he made something of a splash, taking over the Monte Carlo opera house and hiring an unusual diva, Baroness Thatcher, as star performer. She had nothing new to say but the audience - whose net worth probably exceeded Monaco's gross national product - lapped it up. Nor is his new bank a brass plate affair; it boasts a decent-sized dealing room and a staff of about 50. Safra says banks need to get closer to their wealthy clients and not wait for them to fly to Geneva or Zurich. Hardly a revolutionary idea, but then nothing in banking ever is. The only difference with Safra is that he likes to bet on outsiders such as Guernsey, Gibraltar and Lngano. Based on past performance, Monte Carlo should come up trumps.

Bang bang Lebed

Alexander Lebed wants extra powers to deal with Russia's security problems. He says that in his war against crime "we'll shoot people, but reasonably, with minimal losses for the law enforcement bodies, and only those people who refuse to be persuaded". Sounds like the good old days are just around the corner.

Financial Times

100 years ago

Mr Rhodes's Resignation. Bulawayo. At a mass meeting held here today to protest against the action of the British South Africa Company in accelerating Mr Rhodes's resignation, the following resolution was passed: "This meeting protests upon the grounds: (1) that the past services of Mr Rhodes should have ensured his retention of office; (2) that his withdrawal seriously prejudices the people as well as the best interests of British investors; and (3) that the more rapid development of the country that the colonists had the right to expect will be retarded in the event of Mr Rhodes's withdrawal from the Colony."

50 years ago

Rail Holders' Referendum. Every top yesterday brought large numbers of applications for membership to the British Railway Stockholders Union and the L.N.E.R. Stockholders Association, following the appeals of the Boards of the four main-line railways for a mandate from the stockholders for their anti-nationalisation policy. The union secretary said the two days' returns suggest the widest realisation of the dangers of nationalisation not only to stockholders themselves but also to industry and the nation.





**LEGAL DEFINITIONS**  
 medication n. 1 gathering of cancer cures outside celebrity's home (after minor infraction) 2 attempt by a third party to make the two sides in an agreement. see NEWS & ANALYSIS (p1 0171-2484282)  
 Rowe & Maw  
 LAWYERS FOR BUSINESS

## Japan allocates \$155bn for research spending

By William Dawkins in Tokyo

The Japanese government yesterday adopted a "master plan" to allocate ¥17,000bn (\$155bn) to science and technology over the next five years, a substantial increase in state spending on basic research. The scheme aims to overcome the reputation of the Japanese as great developers of other people's ideas but poor innovators. The government's science and technology agency believes the country's weakness in research is a serious competitive handicap. "The nation's technology is currently in its most severe condition in recent years," its report said. The agency says the Japanese R&D structure's main deficiency is the domination of public research laboratories by senior lifetime employees. The country's respect for seniority still takes precedence over promoting the best young scientists, it says. It proposes an overhaul of the research career system, to employ scientists on short-term

contracts related to projects and to allow state-employed researchers to take second jobs in the private sector, a common practice in the west. "Japanese society is very conservative and this is especially true in R&D. It is very important to change and to improve researchers' conditions," said Mr Shimo Hoshiba, a senior agency official and the plan's deputy director. The plan would lift state-funded research spending to US and European levels of about 1 per cent of gross domestic product. But officials admit actual spending might fall short of the target because the finance ministry, keen to curb the budget deficit, retains control over the annual research budget. If the funding target is met, the plan would represent a 5.8 per cent increase in research spending compared with the past five years. It proposes that spending should rise by just over 12 per cent a year until 2000, to reach ¥4,500bn annually. That would be double the level in 1992, when

the agency drew up the plan. Mr Hoshiba said spending would focus on training, co-operation between research projects and the purchase of equipment and computers for the government's research laboratories. Currently, 80 per cent of Japan's \$130bn-a-year science and technology spending is carried out by the private sector - with nearly all devoted to applied, rather than basic research. An outline of the plan was adopted by the cabinet four years ago, and has since been the subject of a fierce debate with the finance ministry. The ministry resisted setting a numerical target for research spending without a clear idea of what the projects would entail. In the event, the finance ministry's assent was won by a compromise, in which it has the right to review research spending annually in the light of the government's financial condition.

Japan throws money at research, Page 5

## Thai bank governor quits after financial scandals

By Ted Berdack in Bangkok

Mr Viji Supinit, the governor of Thailand's central bank, resigned yesterday, bowing to sharp public criticism of his role in a series of financial scandals over the past year. His resignation was welcomed by the domestic and foreign financial communities, which had lost faith in his ability to maintain the Bank of Thailand's much-admired independence. Mr Viji's departure was widely expected and a successor is expected to be announced early next week. Mr Viji, who had spent his entire career at the central bank and had been governor for the past five years, was regarded as a foremost economic manager. But recently his political motives and professional integrity came under attack. He played a significant role in the sacking of Mr Ekamol Khirwat as head of the Securities and Exchange Commission. Mr Ekamol, who was also deputy governor of the central bank, was seen as a potential rival to Mr Viji. His loss of credibility also rendered him impotent in the face of increasing political pressure on the bank to abandon its restrictive monetary policy. Last year, Mr Viji had successfully resisted calls from prime minister Banham Silpa-archa to lower interest rates but he appeared to relent over the past week as his political strength waned. Bangkok Bank and Thai Farmers Bank, two of the country's largest commercial banks, greeted Mr Viji's resignation with announcements that they would immediately cut some lending rates. Mr Viji was further damaged when it was revealed that he had soft-pedaled months of warnings that a medium-sized commercial bank, the Bangkok Bank of Commerce, was engaged in dubious lending practices. The government was forced to take over the bank last month in a \$2bn rescue. Mr Viji allowed the bank to give unsecured loans to prominent politicians to buy land that was then overvalued by as much as 10 times and then used as security for new loans from the bank. Six former Bangkok Bank of Commerce executives or employees have been indicted on charges of fraud. Analysts said while Mr Viji's resignation was a positive step in stemming the decline of the bank's credibility, its continued independence could be ensured only if the government chose a tough and strong-willed replacement. But this was unlikely, analysts cautioned.

Chief falls from grace, Page 5

## Canadian group in \$400m Cuban deal to build hotel chain

By Pascal Fletcher in Havana

A Canadian entrepreneur is undertaking a \$400m joint venture to build 11 tourist hotels in Cuba in the island's biggest foreign investment deal since the US introduced measures in March to discourage foreign business there. Mr Wally Berukoff, who runs a group of mining, property and other companies and already has investments in Cuba, signed the deal with Cuba's state hotel corporation Gran Caribe. The 10-year project is the biggest planned joint venture investment announced so far in Cuba's growing tourism sector. It will also be the largest investment in Cuban tourism by Canada, which, along with Spain and Mexico, is a significant investor in the island. Canadian investment in Cuba has been heavily concentrated on mining, although at least two Canadian companies manage Cuban hotels. The announcement was a further signal that some determined foreign investors do not intend to be put off by Washington's Helms-Burton law. The US legislation threatens penalties against foreign companies which invest in property expropriated from Americans in Cuba following the 1959 revolution. Canada's government last month proposed retaliatory legislation which would allow Canadians to counter-sue in Canadian courts to recover any damages which might be awarded against them in US courts under the Helms-Burton law.

Mr Berukoff, who is based in Vancouver, has interests in two advanced gold projects in Cuba and has also invested in a Cuban Canadian biotechnology joint venture. He said his lawyers had checked the proposed hotel sites in Cuba, which were subject to no known US claims. "We have been very careful not to deal with confiscated US properties," he said. The 50-50 hotels joint venture was constituted by Cuba's Gran Caribe and one of Mr Berukoff's companies, Wilton Properties, which is registered in the British Virgin Islands. The Canadian-Cuban venture, called Vanacha Holding, plans to build 4,200 hotel rooms over the next decade, distributed in 11 hotels. "I see it as a long-term investment," Mr Berukoff said, adding he viewed Cuba as a growth market for tourism. He said the projected rate of return on the investment was "more than adequate" but declined to give details. One of the 11 planned hotels would be built in Havana and two on Cuba's Isle of Youth, where one of Mr Berukoff's companies, Miramar Mining Corporation, already has an advanced gold and silver project. Three more hotels were planned on the Cuban offshore tourist island, Cayo Largo del Sur. But the bulk of the project, comprising five hotels, would concentrate on the development of a north coast beach site at Jibacoa, some 50km (30 miles) east of Havana. This would include a golf course, ranch, marina and cruise ship facilities.

## Credit Suisse

Continued from Page 1

banking business after J.P.Morgan of the US. Its net income would have been \$1.3bn in 1995. CS said the changes had been discussed since the end of last year and were not related to the failed UBS merger. Mr Hans-Ulrich Doerig, vice chairman of Credit Suisse, becomes chief executive of Credit Suisse First Boston in an apparent attempt by the Swiss to tighten their grip on their volatile international investment banking subsidiaries. Mr Allen Wheat, president and chief operating officer of CS First Boston, becomes chief operating officer. Mr John Hennessy, chairman of CS First Boston, is retiring from active management.

## Digital jobs

Continued from Page 1

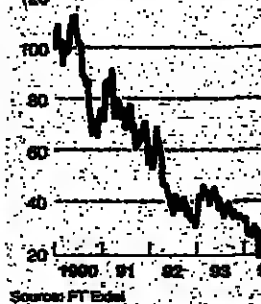
"intact". "We expect to remain profitable," he said. "We will be back on track by December." Mr Palmer said Mr Enrico Pastor, general manager of Digital's Computer Systems Division and a vice president of Digital, had resigned with immediate effect. Digital's core businesses, which include high performance computers and its services operations, remained strong with double-digit sales growth. In Europe, Digital's sales fell about \$150m short of expectations in the fourth quarter, Mr Palmer said. Digital's European operations would also be cutting jobs, mostly in administration and support areas. Of the 7,000 job losses over the next year, about half are expected to be in Europe. Digital now has a worldwide workforce of about 61,000, about half its peak in the 1990s.

## THE LEX COLUMN Credit's crunch

FT-SE Eurotrack 200: 1740.3 (-6.9)

Digital Equipment

Share price relative to the S&P Composite



Source: FT Data

Credit Suisse, the oldest of Switzerland's three big banks, has long been one for a fiscalist. April's embarrassing failure to bounce bigger rival UBS into a merger seems to have finally galvanised its management into action. Yesterday's rationalisation sweeps away a tortuous group structure under which stand-alone businesses overdeveloped and even competed with each other. The new organisation places greater emphasis on asset management and private banking - relatively stable and profitable areas - by assigning them equal divisional status with retail and investment banking. There is nothing innovative in this SBC but an almost identical structure in place after the takeover of SG Warburg. But Credit Suisse has also found itself a highly-rated new chief executive in Mr Lukas Muehlenmann, a former management consultant who has won plaudits for restructuring insurance group Swiss Re.

Mr Muehlenmann has plenty to get his teeth into. Due to 1993's disastrous acquisition of Volksbank, Credit Suisse is losing money in Swiss retail banking even though it is market leader with a 30 per cent share. Yesterday's job cuts and branch closures, which should yield the bulk of promised savings totalling \$570m (\$50m), are the first serious attempts to cut costs at home. The real challenge, though, is to sort out Credit Suisse First Boston, the investment banking arm. Although CSFB should be a very valuable asset as the only European bank with a real foothold on Wall Street, its returns have been mediocre. This reorganisation beefs up CSFB by bringing the profitable derivatives unit under its aegis and uniting commercial and investment banking, a move which Mr Rainer Grot, chairman, has always fought against. Whether it will help CSFB to match rivals like Goldman Sachs or Morgan Stanley for profitability is much more doubtful.

Looking forward, Digital's decision to cut further its presence in PCs seems sensible. Its other businesses - notably providing computer services and making "servers" for computers that sit at the heart of networks - are more profitable. Moreover, Digital has competitive advantages in these areas as a result of its strategic alliance with Microsoft and Alpha, its last microprocessor. But even these markets are becoming increasingly competitive. Unless Digital rapidly demonstrates that it is back on the recovery track, the few advantages it still possesses will be eroded.

## Digital Equipment

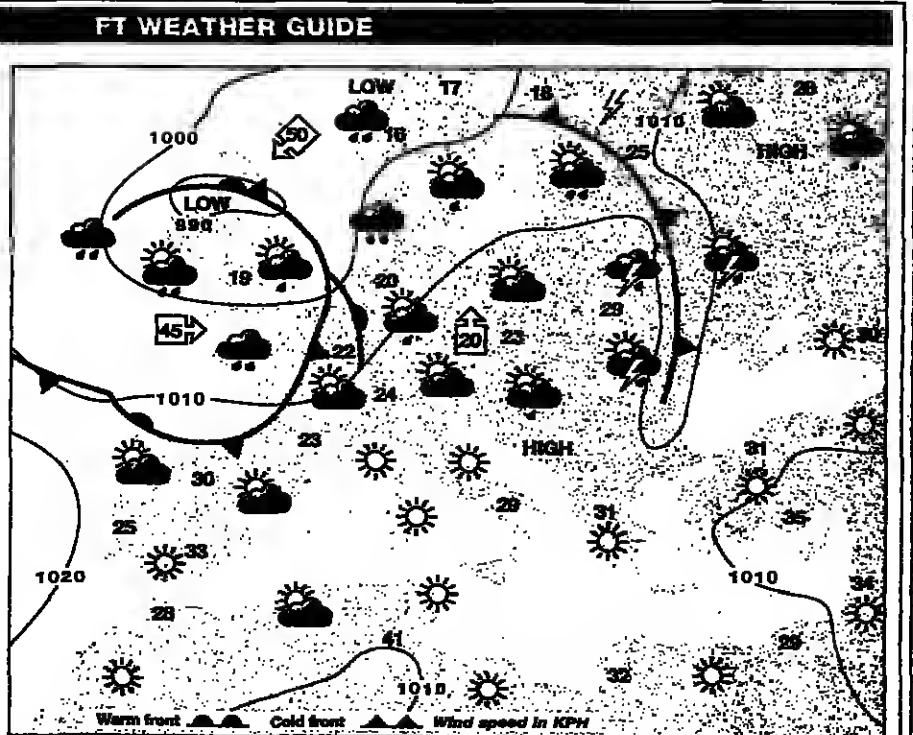
Digital Equipment is back to its bad old ways. Barely a year after the computer group had apparently turned the corner, it has unveiled another huge restructuring charge. Mr Robert Palmer, chairman and chief executive, may point out that the restructuring charge at \$400m and the associated 7,000 job cuts are smaller than some other hits Digital has taken in recent years. But it is still a substantial blow to the credibility of both the company and Mr Palmer.

## Orange

Orange has yet to face a real squeeze. But some of the enthusiastic forecasts that accompanied the cellular operator's March flotation may have to be scaled back. For the second quarter running, net growth in customers has fallen. The decline may not be in the three months to end-June, down from 108,000 in the previous quarter and 115,000 in October-December last year. But the strong momentum that Orange had developed in the run-up to its flotation has evaporated. Two things have happened. First, overall growth of the UK cellular market has slowed: there were fewer than 300,000 net new customers in the last quarter - a drop of nearly 40 per cent compared with the same period of the previous year. There is, as yet, no convincing explanation for this. But if the slowdown persists, the industry will either have to cut prices to boost sales or to live with less rapid growth than once seemed likely. Either way, Orange would suffer more than Vodafone, its main quoted rival: not only is Orange, which is still loss-making, effectively a geared play on the UK cellular market, Vodafone's fast-growing international business provides a cushion.

## Mastercard

Mastercard certainly knows how to pick a fight. Just a matter of weeks after the European competition commissioner warned fellow credit card company Visa against stopping its member banks from issuing rival cards in Europe, Mastercard has decided to try the same trick in the US. Of course, it has a simple defence. Visa has already quietly got away with such a practice in the US, on the basis that it is rightfully defending its brand. However, since American Express or other card issuers have to build their own brands and computer



Situation at 12 GMT. Temperatures maximum for day. Forecasts by Meteo Consult of the Netherlands

**Europe today**  
 Unsettled conditions will prevail throughout the British Isles. Scotland will have rain and strong easterlies are expected in northern regions. Southern regions of England, Wales and Ireland will have patchy cloud with showers. South-westerly winds will be strong in the Irish Sea and a fresh breeze will blow along the east coast of England. Western and central France and the Benelux will have rain as an active front associated with low pressure in Scotland sweeps eastward. The rain will spread across western and northern Germany in the afternoon. A weak ridge of high pressure will bring dry conditions with sunny spells to eastern Europe. Thunderstorms are likely near a front sweeping east across Romania and the Ukraine, as well as western parts of Russia. The Mediterranean will be sunny.

**Five-day forecast**  
 Showers are expected throughout the British Isles and in western and central Europe. There will be heavy thunderstorms over southern France and the Alps on Friday and Saturday. It will become cloudy with occasional rain in northern Spain. Elsewhere in Spain, southern Portugal, Italy, Greece and Turkey it will continue sunny and hot.

**TODAY'S TEMPERATURES**

Abu Dhabi	sun	44	Batavia	sun	28	Cebu	sun	31	Frankfurt	sun	27	London	sun	19	Manila	sun	31	Paris	sun	24	Rangoon	sun	34	Singapore	sun	32	Tokyo	sun	28
Accra	sun	28	Bombay	sun	32	Colombo	sun	31	Hankow	sun	27	Hong Kong	sun	32	Kobe	sun	28	London	sun	19	Manila	sun	31	Medan	sun	32	Osaka	sun	28
Algeria	sun	27	Buenos Aires	sun	28	Calcutta	sun	31	Hankow	sun	27	Hong Kong	sun	32	Kobe	sun	28	London	sun	19	Manila	sun	31	Medan	sun	32	Osaka	sun	28
Amsterdam	sun	18	Buenos Aires	sun	28	Calcutta	sun	31	Hankow	sun	27	Hong Kong	sun	32	Kobe	sun	28	London	sun	19	Manila	sun	31	Medan	sun	32	Osaka	sun	28
Athens	sun	33	Buenos Aires	sun	28	Calcutta	sun	31	Hankow	sun	27	Hong Kong	sun	32	Kobe	sun	28	London	sun	19	Manila	sun	31	Medan	sun	32	Osaka	sun	28
Atlanta	sun	34	Buenos Aires	sun	28	Calcutta	sun	31	Hankow	sun	27	Hong Kong	sun	32	Kobe	sun	28	London	sun	19	Manila	sun	31	Medan	sun	32	Osaka	sun	28
B. Aires	sun	18	Buenos Aires	sun	28	Calcutta	sun	31	Hankow	sun	27	Hong Kong	sun	32	Kobe	sun	28	London	sun	19	Manila	sun	31	Medan	sun	32	Osaka	sun	28
Bangkok	sun	36	Buenos Aires	sun	28	Calcutta	sun	31	Hankow	sun	27	Hong Kong	sun	32	Kobe	sun	28	London	sun	19	Manila	sun	31	Medan	sun	32	Osaka	sun	28
Barcelona	sun	25	Buenos Aires	sun	28	Calcutta	sun	31	Hankow	sun	27	Hong Kong	sun	32	Kobe	sun	28	London	sun	19	Manila	sun	31	Medan	sun	32	Osaka	sun	28

**Indonesia's new high flier.**

Indonesia's state-owned IPTN celebrated its 20th anniversary with the debut at Indonesia Air Show '96 of the twin-engine N250, scheduled to enter commercial service next year. The N250 is the world's only fly-by-wire regional turbo-prop and, at 330 knots, one of the fastest. Its range is 800 miles and stretched versions with up to 72 seats are already under development. Key equipment includes landing gear supplied by Messier-Dowty (TI Group's joint venture with SNECMA) and Dowty propellers and hydraulics - a package worth over US\$200 million across the expected life of the programme. With our help, the N250 is a real high flier. Dowty is one of TI Group's three specialised engineering businesses, the others being Bandy and John Crane. Each one is a technological and market leader in its field. Together, their specialist skills enable TI Group to get the critical answers right for its customers. Worldwide.

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COMPANIES AND FINANCE: EUROPE/INTERNATIONAL

# Stena goes for rapid solution to profits gloom

The troubled ferry operator is trying to launch its latest weapon in the high-seas battle for passengers

The rain splashing down on the huge new high-speed ferry crouched at its berth in a slate-grey Gothenburg harbour last weekend neatly matched the mood of what has been a gloomy start to the all-important summer season for Sweden's Stena Line.

The world's largest ferry operator was forced to issue a profits warning last month because of the effects of unrelenting competition on the English Channel from Eurotunnel, and delays in introducing its much-trumpeted High-Speed Sea Service (HSS) vessels on the Irish Sea.

Profits this year are now forecast to be below the SKr20m (\$30.2m) pre-tax surplus earned last year - which in turn was less than half the level of profits in 1994. The difficulties are the more intractable to Stena because they come just as the company is entering an offensive phase of new investment and capacity increases after three years of financial consolidation.

But Mr Bo Lerenius, Stena's chief executive, is adamant the company is not about to change course from its strategy of concentrating on the ferry business - despite growing competition from bridges and tunnels and threats such as the European Union's plan to end on-board duty free sales in three years.

Stena operates 35 ferries on 15 routes around Britain and Scandinavia. This year, it has already introduced one HSS and one new conventional ferry. By the end of the year, two smaller HSS vessels are

due to be delivered, with a third large HSS due early next year.

"Of course, it is a problem when a number of [adverse] things happen at one time," says Mr Lerenius. "We are talking about a lot of money and Eurotunnel hit us with a worse attack than we anticipated. But we will continue to stick to our strategy. No way will we change our plans to introduce new tonnage."

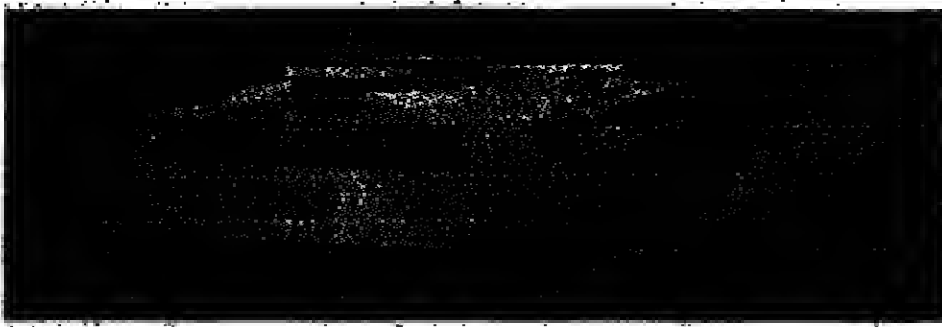
The toughest challenge to Stena at present is on the English Channel. Since Eurotunnel opened a year ago, it has taken more than a 40 per cent share of the market - partly through offering rock-bottom prices which have squeezed out the price advantage the ferry operators hoped would be the chief weapon in their defences on the route.

Eurotunnel delivered another blow just before the current summer high season with another round of price cuts. "From our point of view, it was very dramatic. It means the whole price level is 50 per cent of what it was before," says Mr Lerenius.

At the same time, Stena has been adding vessels, taking its fleet from three to five on the Dover-Calais route, following the end of an earlier co-operation it had with the French operator SNA.

The combination of lower prices and rising operating costs forced Stena to join Britain's P&O, the biggest ferry operator on the route, in urging the British government to relax rules preventing co-operation between the ferry operators.

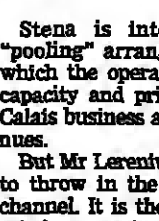
Stena Line



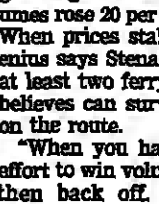
Sales, SEK bn



Pre-tax profits, SEK m



Operating margin, %



Source: Company

Thought of doing that - or of selling any part of our business," he says.

Stena's second problem in getting its impressive HSS craft into service. The second of these aluminium-built, jet-engine propelled giant catamarans should not still have been in Gothenburg last week end, according to original schedules. It should have been in service on the Stranraer-Belfast Irish Sea route more than a month ago, to complement the first HSS, which also began late on the Dun Laoghaire-Holyhead run earlier this year.

The process of testing and gaining full operational approval from the maritime authorities for the vessels has taken longer than Stena anticipated. But, the craft are a cornerstone of Stena's strategy which may yet play their part in the battle on the English Channel.

Stena is spending SKr30bn on the five HSS craft - three with capacity for 1,500 passengers and 375 cars, and two smaller vessels to carry 900 passengers and 210 cars. They aim to combine the 40-knot speed of much smaller high-speed craft already used by many companies with the capacity of a

large ferry. The big high-speed ferries offer key elements which Stena - the first ferry operator to invest in them - believes will give it a significant competitive advantage.

They cut journey times by as much as half, enabling operators to charge premium prices. Prices on Dun Laoghaire-Holyhead are up to 30 per cent higher than for conventional vessels. But they have the capacity to gain big volumes.

Mr Lerenius sees HSS vessels playing a vital role in the future. With duty free set to disappear, and the advent of fixed links like Eurotunnel and the Sweden-Denmark bridge-tunnel, the emphasis for ferry operators is going to move to getting passengers from A to B, rather than on what Mr Lerenius calls "creative travel".

Stena sees the present three-way split in its revenues between ticket sales, on-board sales and freight income shifting significantly in favour of the former and latter. On non-overnight routes (for the time being, at least, HSS craft have no cabins), high-speed, high-capacity vessels will come into their own, the company believes.

This is why Stena is so anxious to get its first two HSS 1500 vessels into service. There was much pride among company officials at the weekend in Gothenburg as they showed hundreds of curious visitors around the gleaming, space-craft-like ship.

But there was also impatience to get the paying public aboard as soon as possible.

Hugh Carnegie

German town of Kiel, has been reshaped in recent years in an effort to focus activities on larger diesel engines for ships. The company also makes smaller engines for electricity generators and had until recently made parts for the Leopard II tank.

Krupp declined to comment on an eventual sale price for MaK, saying that the due diligence process was to start immediately. MaK made unspecified net profits last year on sales of DM541m (\$355.1m). Krupp overall made record net profits of DM306m last year on

sales of DM23.5bn. Selling MaK is a further step in a wide-ranging overhaul at Krupp following its merger with rival steelmaker Hoechst in 1993. As part of that process, the Essen-based group said last month it would sell its Orestein & Koppel escalator activities to Kone, the world's third-largest lift producer. It is still looking for a buyer for O&K's mining and construction equipment businesses.

Krupp said MaK had a sizeable share of the world market for ships diesels but that this was not enough to ensure its

future. "We had the choice of either expanding MaK's engine-making activities or finding a buyer which fitted," Krupp said.

A sale to Caterpillar made sense because of the US group had larger diesel engine activities for lorries, ships and construction equipment.

The German group also said Caterpillar wanted to keep the MaK name and to integrate the company into Caterpillar's engine activities. A merged company would create the world's largest maker of diesels for ships.

## Caterpillar to buy Krupp diesel unit

By Michael Lindemann in Bonn

Krupp, the leading German steel and engineering group, which has undergone considerable restructuring in recent years, yesterday said it would sell its MaK Maschinenbau subsidiary, which specialises in diesel engines, to Caterpillar, the US group.

The two companies have signed a letter of intent and Krupp said yesterday they expected to reach a final agreement in the autumn. MaK, based in the northern

German town of Kiel, has been reshaped in recent years in an effort to focus activities on larger diesel engines for ships. The company also makes smaller engines for electricity generators and had until recently made parts for the Leopard II tank.

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## Caio likely to be head of Olivetti

By Andrew Hill in Milan

Directors of Olivetti, the Italian computer group, could name a replacement for Mr Corrado Passera, the outgoing chief executive, as early as tomorrow following Banco Ambrosiano Veneto's announcement yesterday that Mr Passera will be the bank's new chief executive.

The front-runner to replace Mr Passera is Mr Francesco Caio, 38, chief executive of Omnitel Pronto Italia, the mobile phone company in which Olivetti has a 41 per cent stake.

Mr Caio is a former management consultant with McKinsey and former assistant to Mr Carlo De Benedetti, the group chairman and joint chief executive, whose family controls the company through Cir, a quoted holding company.

If he takes the job, Mr Caio will have the responsibility of converting Olivetti's transformation into a broad-based information technology and telecoms company, and ensuring that the group meets its 1996 target of ending five consecutive years of net losses.

Ambroveneto, one of Italy's largest quoted banks, said it would finalise the appointment

of Mr Passera, 41, to the vacant post of chief executive, at a board meeting towards the end of this month.

Mr De Benedetti announced unexpectedly last week that Mr Passera, one of his closest collaborators over the last 11 years, had received an alternative job offer. Mr De Benedetti indicated that the board would name a replacement before the end of the month. Olivetti would not comment yesterday on the potential successors or the timing of the meeting.

The news of Mr Passera's departure has hit the company's share price over the last few days, as he was one of the architects of Olivetti's recovery plan, and head of the newly formed personal computers subsidiary. Yesterday Olivetti's shares recovered slightly to close up L10.5 at L32.1.

Mr Bernhard Auer, a former senior executive with Digital Equipment of the US who joined Olivetti last year, is likely to take charge of the PC business, with a mandate to proceed with the rationalisation plan.

The PC company has already announced that it broke even in February and March, and is expected to indicate second-quarter figures before the end of this month.

Nicki Tsai, Sydney

## Verbundnetz Gas sees return to black

By Judy Dempsey in Berlin

Verbundnetz Gas, east Germany's largest gas distribution group, expects to report operating profits this year for the first time since reunification. Mr Klaus-Ewald Holst, chairman, said yesterday VNG would move out of the red by 1997, despite the slowdown in the region's economy.

The optimistic forecasts are linked to a sharp rise in gas

sales, and in send-out - the distribution to households and industry of natural gas, town gas and domestic natural gas produced at Salzwedel in the eastern German state of Saxony-Anhalt.


The company reduced its losses last year, from DM26m to DM1m (€56.4m). Sales rose 20 per cent, from DM2.8bn in 1994 to DM2.7bn, and send-out climbed 27 per cent, from 101bn kilowatt hours to 129.7bn KW/h

over the same period. The expectation of profits also appears to be linked to the VNG's heavy investment programme in the five-eastern states, as well as the switch by households from brown coal - or lignite - to gas.

VNG was sold in 1992 by the Treuhänder privatisation agency to several German gas companies, including Ruhrgas, the biggest shareholder with a 35 per cent stake. Since then it

has invested more than DM2bn in modernising existing pipelines and laying new ones. It plans to invest a further DM1.5bn until 2000.

The investment programme was also designed to shift consumption away from brown coal. Until 1990 it was the main source of energy to industry and domestic consumers, with only 6 per cent of the latter linked to gas, compared with 66 per cent to brown coal. Mr Holst said more than 29 per cent of households were now receiving gas. VNG expects gas consumption by industry to rise from 21bn KW/h in 1991 to about 50bn KW/h by 2000.



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London Branch



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## Rabobank builds private equity investment side

By Richard Gourlay in London

Rabobank, one of the Netherlands' largest banks, has bought Gilde Holdings, a prominent continental European venture capital company, for an undisclosed sum in a move that will substantially increase its private equity investment activities.

The bank has committed to putting up to F150m (\$222m) into a new fund to be managed by the Gilde team for investment in transactions that emerge from its branch network.

At the moment the bank has only F150m invested in the asset class.

Rabobank is also underwriting up to F1bn of capital for two other funds, F180m invested in management buy-outs and F120m in information technology companies.

Earlier this month Rabobank announced plans to take control of Robeco, a leading Dutch fund manager, as part of a strategy to build its international life assurance and fund management businesses.

Robeco has four listed investment funds: Robeco and Rollco, which invest in shares; Roronto which focuses on fixed income instruments; and Rodamco, which deals in property.

Mr William van't Hooft, Rabobank corporate finance director, said the purchase of Gilde followed "an important policy change" within Rabobank.

The bank had decided to increase its management buy-out activities through an independent management company.

Gilde would also take Rabobank into private equity investment outside the Netherlands.

The management team of Gilde will operate independently of Rabobank and will have a right to so-called carried interest in the funds once certain performance targets are met.

In addition to the purchase of the management company, Rabobank is paying F120m to buy the assets of Gilde's four existing funds from their investors.

Mr Leendert van Driel, partner at Gilde Partners, said Gilde Partners would be seeking other investors for the funds.

Since it was founded in 1982, Gilde Partners has managed funds with a value of F171m and has invested in over 100 companies.

Mr Hooft said Gilde could be floated in five years if it produced the necessary performance record.

## NEWS DIGEST

### Rémy postpones release of results

Rémy Cointreau, the French drinks group which is suffering from weak cognac sales and high distribution costs, has postponed the publication of its year-end results from yesterday until late this month. The group, 53 per cent owned by the Hérard-Dubreuil family, gave no reason, but indicated that technical problems had delayed the accounts.

The company's shares closed yesterday at FF144, down FF7 in the past two days, and heavily down from a peak of FF265 in January 1994. It warned in late April that net profits for the year ended March would be slightly lower than the FF276m (\$33.6m) of a year earlier. But they would include FF212m in extraordinary gains from asset sales. Analysts expected it to barely break even at the pre-exceptional level also level in the latest year. The company has said it would also maintain the dividend.

The strong French franc has hit Rémy's overseas operations. Cognac sales, particularly in east Asia, where Rémy has tried to push through price increases to offset the franc factor, have fallen. Rising sales of its champagnes, such as Krug and Heidsieck, have only partly offset the decline. Analysts thought the results delay might mean the company had suffered a further setback in a foreign market or, less likely, that it planned a financial or corporate restructuring.

The prime target for change is its extensive global distribution. Analysts said the group had too small a product portfolio to justify the cost. Rémy was trying to broaden it by taking on distribution for other companies. It already handles Famous Grouse Scotch whisky from Highland Distilleries which has a cross shareholding in it. It recently took on Grand Metropolitan's brands in Singapore and Malaysia.

Roderick Oram, Consumer Industries Editor

### Tribune Group in \$1bn TV buy

Tribune Group, owner of the Chicago Tribune, is to extend the reach of its television station operations to more than 50 per cent of US homes with the \$1bn purchase of Renaissance Communications. The move will add six stations to the 10 Tribune-owned and make Tribune the biggest concern in the field, ahead of Westinghouse Electric. The acquisition is part of a strategy to reduce dependence on print media.

Coming quickly after Westinghouse's \$3.9bn acquisition of Infinity group last month, it marks a further decisive stage in the rapid consolidation of US media and communications spurred by telecom deregulation. Under new rules, broadcasting groups may now own systems able to reach 35 per cent of US homes, up from 25 per cent. Tribune's coverage will now span 11 of the main US TV markets and give it greater leverage in negotiations for programming in competition with competitors such as the cable companies and Westinghouse.

Christopher Parkes, Los Angeles

### Pay-per-view Italian soccer

Italian soccer fans will get their first taste of pay-per-view television this autumn, when Telepiù, the Italian pay-TV company founded by Mr Silvio Berlusconi, will start special live coverage of the Italian league for subscribers. Telepiù, in which Mr Berlusconi's Fininvest group still has a 10 per cent stake, said yesterday it also planned to launch a "video-on-demand" service.

The pay-per-view TV service will be available for individual games or in the form of a "season ticket" to all games of single clubs. Coverage will start in September with the top Serie A games and extend to Serie B from January, transmitted by Telepiù digital satellite television subsidiary. The season ticket for Serie A will cost L600,000 (\$326), plus L1.7m for the decoder, satellite dish and smart card for access to the programmes.

Mediaset, the Berlusconi media company set for stock market flotation later this month, has an option to buy Fininvest's 10 per cent stake in Telepiù. The Rupert family of South Africa, and Kirin, the German media group, own about 35 per cent of Telepiù each, and are also the largest minority shareholders in Mediaset.

Andrew Hill, Milan

### St George out of Metway deal


St George Bank, the Australian regional bank, has effectively abandoned its efforts to acquire Queensland's Metway Bank for A\$320m (US\$244.8m). The bid, which was to have been implemented by a scheme of arrangement, failed to win sufficient backing from Metway shareholders last week. This appeared to clear the way for the Queensland state government's rival plan to create a regional "superbank" by merging Metway with two other government-owned institutions.

Nicki Tsai, Sydney

### Italian broking link-up cancelled

An Italian joint venture between broking house Akros Finanziaria and financial services group Sopaf, which owns brokers Pasfin, has been called off. Mr Giuseppe Daverri, Sopaf director, said the plan to create a 50-50 venture to be called Akros Investment, had been cancelled. Akros shareholders this week opted for a capital increase rather than the venture.

Reuter, Milan



**THE SOUTH AFRICAN BREWERIES LIMITED**

Reg. No. 001602200  
(Incorporated in the Republic of South Africa) (The Company)

**RESULTS OF THE CAPITALISATION SHARE AWARDS**

UAL Merchant Bank Limited is authorised to announce that, further to the announcement published on Wednesday, 15 May 1996, elections from ordinary shareholders to receive a final cash dividend of 183 cents per ordinary share on account of the year ended 31 March 1996 in lieu of the capitalisation share award to ordinary shareholders were made in respect of a total of 46 316 790 ordinary shares, resulting in a final cash dividend payment of R89 391 288.90, and elections from holders of the series "B" automatically convertible cumulative preference shares ("B convertible preference shares") to receive a cumulative preferential cash dividend of 127.5 cents per B convertible preference share on account of the year ended 31 March 1996 ("preference cash dividend") in lieu of the capitalisation share award to B convertible preference shareholders were made in respect of a total of 1 207 642 B convertible preference shares, resulting in a preference cash dividend payment of R1 539 998.55. As a result, a total combined dividend payment of R91 601 515.40 (which includes R670 227.85 in residual cash dividends payable in lieu of fractional entitlements to new ordinary shares, arising out of the capitalisation share awards referred to below) is due by the Company.

Accordingly, pursuant to the capitalisation share awards and based on the averaged closing price of the Company's ordinary shares on The Johannesburg Stock Exchange ("the JSE") for the four business days ended Friday, 28 June 1996 of R127.3125, 4 012 949 new ordinary shares, on the basis of 1.80691 new ordinary shares for every 100 ordinary shares held, are to be issued to ordinary shareholders representing an convertible preference shares held, are to be issued to the holders of the B convertible preference shares the number of issued ordinary shares in the share capital of the Company has increased from 296 385 095 ordinary shares to 300 670 208 ordinary shares.

**Listings**

The listing of the 4 287 115 new ordinary shares in the Company will commence on the JSE and on the London Stock Exchange from the commencement of business today.

**Posting of share certificates and dividend cheques**

Share certificates in respect of the new ordinary shares and cheques in respect of the final cash dividend, the preference cash dividend and the residual cash dividend in respect of fractional entitlements to new ordinary shares will be posted to the applicable shareholders registered on the South African share registers by registered and ordinary mail respectively and to the applicable shareholders registered on the United Kingdom share register, by first class mail, today.

By order of the Board  
A O C Tonkinson  
Group Secretary  
3 July 1996

2 Jan Smuts Avenue  
Johannesburg 2001

JAVICO 150



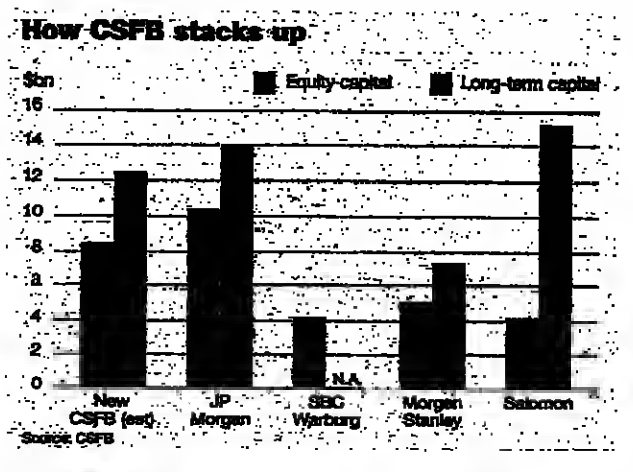
THE SHAKE-UP AT CREDIT SUISSE

George Graham, Banking Correspondent

Global competition

Making sure of one of the few places at the top table

The approach of the millennium has injected an almost apocalyptic spirit into the world's leading universal banks.



with considerably less fanfare, by Swiss Bank Corporation. Like SBC, CS has grouped into four divisions: wholesale and investment banking, asset management, private banking, and domestic retail banking.

ing private banking and asset management in stand-alone divisions also creates more visibility for these low volatility products, which command greater respect from investors.

The people

Ralph Atkins and Nicholas Denton

Blue-eyed boy of the investors

Mr Lukas Mühleemann created a whirlwind within the sometimes sleepy reinsurance world with his appointment as chief executive of Swiss Re in September 1994.

Another executive from the commercial banking division, Mr Oswald Gröbel, takes the powerful post of head of global trading of the new CSFB.



Gut choice: Lukas Mühleemann, a model management consultant fizzing with ideas

The path of change over two decades

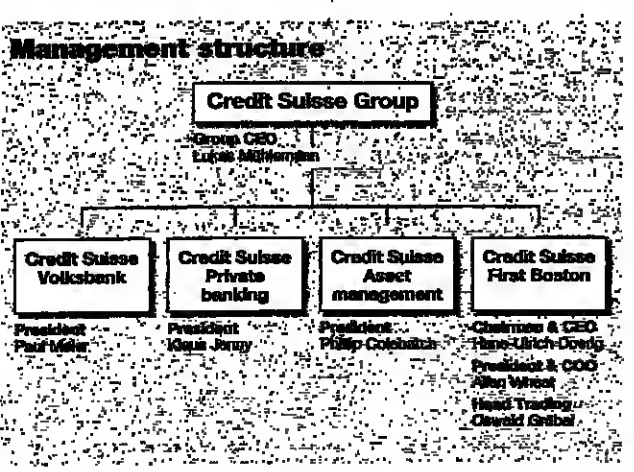
1856 Credit Suisse founded. 1977 Huge losses resulting from a scandal at its Chiasso branch in southern Switzerland shake the whole group.

The structure

William Hall, Zurich

Four core businesses in refocused international financial institution

Credit Suisse, the oldest and most international of the Swiss banks, has a deserved reputation as one of the pioneers of modern Swiss banking.



Doerig. This will include two autonomous divisions, Credit Suisse Asset Management, and the corporate and investment banking business, Credit Suisse First Boston.

Swiss retail banking

George Graham

A crowded and unprofitable market

Switzerland has lost a quarter of its banks over the past five years through acquisition and closure, but Swiss bankers are in no doubt that their market remains crowded and unprofitable.

observes that in an average merger, 30 per cent of the customers move their accounts. But he also believes firmly that consolidation is needed, and least at what he perceived to be an opportunity earlier this year to strike boldly at Switzerland's banking overcapacity by merging with rival Union Bank of Switzerland.

MGM GRAND, INC. 8,625,000 Shares Common Stock. Includes logos, share counts, and lists of joint global coordinators and underwriters.



COMPANIES AND FINANCE: THE AMERICAS / ASIA-PACIFIC

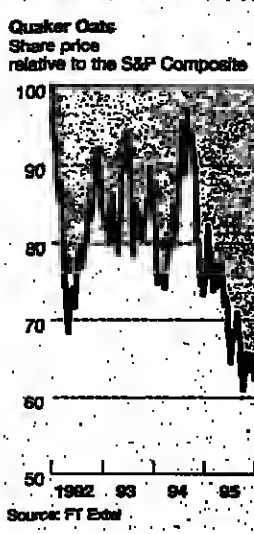
Quaker falls foul of fad for 'good-for-you' drinks

Last November Mr William Smithburg, chairman and chief executive of Quaker Oats, appeared before the company's annual meeting and predicted that its disastrous acquisition of Snapple Beverage, the trendy soft drinks maker, would at last be good.

"Wait and watch for 1996, and see what we can do," he told Quaker's long-suffering shareholders.

So they waited, and they watched: but by now, they must be wishing they had not. For last week, Quaker delivered yet another in a long series of warnings that Snapple was failing to live up to expectations, and would again turn in a loss for the year.

How Snapple turned sour for Quaker Oats



Source: FT Data

- Nov 2 1994 Quaker Oats announces the acquisition of Snapple Beverage for \$1.7bn in cash. Moments later Snapple announces a slump in third quarter net profits from \$26.9m to \$7.1m. Quaker's share price falls 10%.
- Jan 17 1995 Quaker integrates the marketing of its Snapple and Gatorade soft drinks under Donald Uzzi, its new chief marketing officer. The combination "presents tremendous profit growth opportunities, Uzzi says."
- Jan 17 1995 Quaker reports a 20% fall in net profits to \$34.4m for the quarter to December.
- Mar 9 1995 Quaker's chief financial officer, unexpectedly resigns, upsetting Wall Street. The company says it will take a reorganisation charge of \$70m to \$80m in the quarter to June.
- Jun 20 1995 Quaker warns analysts that Snapple is proving more difficult to absorb than expected. Sales have fallen 15% below last year's levels, it says.
- Jul 12 1995 Quaker says net income for the quarter to June will fall \$40m to \$50m below expectations, citing a number of problems including poor Snapple sales.
- Oct 28 1995 Board director Philip Marinakis, president and chief operating officer, unexpectedly quits. Wall Street says he is seeking the plan for the Snapple finance.
- Nov 9 1995 At the company's annual meeting, Quaker chairman and chief executive William Smithburg defends the Snapple acquisition, saying he expects it to reach up double-digit sales growth in the coming year.
- Dec 21 1995 Quaker warns that it will plunge into the red in the quarter to December because of Snapple's dismal sales and heavy losses.
- Apr 1 1996 Quaker launches an ad campaign boosting its position as a diet drink in the US soft drinks market, trailing Coke and Pepsi. Consumerists are baffled: sales fall.
- Jun 28 1996 Quaker warns that second half profits will be hit by a "sales slump" at Snapple and by the cost of launching a new ad campaign for the brand's diet drinks. Snapple will end the year "significantly below break-even, it adds."

"Made from the best stuff on earth." A decade earlier Quaker, best known for its breakfast cereals, had struck gold when it diversified into soft drinks through the acquisition of Stokely-Van Camp, US maker of Gatorade, a sports drink. Thanks to growing consumer enthusiasm for "healthy" drinks and investment by Quaker, sales of Gatorade had soared.

three fastest-growing soft drink segments in the US. Further, it thought it could boost sales of both brands by combining their distribution channels. But the danger was that "good-for-you" drinks could just be a fad. And even if they were not, Snapple no longer had the market to itself. Coca-Cola and PepsiCo, acutely aware of the danger to their market share, were already launching their own versions of iced teas and juice drinks.

Soon after the acquisition had been completed, Quaker discovered another problem. Gatorade sold mainly through supermarkets and convenience stores, while Snapple sold mainly through corner stores and delicatessens. The two had separate distribution systems.

Quaker wanted Gatorade's distributors to take over the distribution of Snapple to supermarkets and Snapple's distributors to take over the distribution of Gatorade to the delis. But Snapple's distributors, who had long-term contracts, refused to go along with the plan because it would mean swapping high-margin Snapple sales for lower-margin Gatorade sales.

campaign that tried to make a virtue of Snapple's position as number three in the US soft drinks market, behind Coke and Pepsi.

"It was a disaster," says Mr Tom Pirko, managing director of Benmark, a US food and drink consultancy. "It was confusing. It said we are mediocre. It was way off what trademark equity is about." Now, the campaign has been called and Quaker is poised to launch a new marketing blitz. Next week it plans to start giving away millions of bottles of Snapple on the streets, in the parks and on beaches of the US, hoping to build up demand in the remaining summer months.

Morgan Stanley benefits from rise in market share

By Maggie Urry in New York

The continuing strength of financial markets helped Morgan Stanley, the investment bank, to nearly double earnings per share in its second quarter, which ran to May 31. Fully diluted earnings per share for the quarter were \$1.75, up from 91 cents in the same period of 1995, and from \$1.57 in the first quarter.

In early trading trading the shares jumped 1 1/2% to \$60.78 at the end of the second quarter. Mr Philip Duff, chief financial officer, said "the operating environment has been about as ideal as one could imagine" although the rise in market interest rates in the second quarter had dampened some areas of activity such as debt underwriting and fixed interest trading.

Looking forward, he said that the environment for equity issues was getting softer but there was still a significant pipeline of deals, although not as large as some of the multi-billion dollar offerings Morgan Stanley had managed in the second quarter.

Group revenues, net of interest, were \$1.53bn, up from \$1.01bn in the comparable quarter last year and from \$1.45bn in the first quarter. The investment banking division had its best ever quarter with revenues of \$62m, beating the quarter to end November 1995 when revenues were \$50m. In the second quarter last year they stood at \$27m. The rise reflected strength in mergers and acquisitions and underwriting.

News executive chosen to run John Fairfax

By Nikki Tait in Sydney

John Fairfax, Australia's leading newspaper publisher, in which Mr Conrad Black, the Canadian media tycoon, holds the largest single stake, yesterday announced that it was appointing Mr Robert Muscat as its new chief executive.

months in the job - but then stayed on to ensure some continuity. Fairfax said last night that Mr Muscat would take over on August 1. He first joined News in 1968, and became production manager of the Sydney newspaper operations in his late twenties. He was subsequently promoted to become group general manager of the newspaper unit in 1987.

Muscat as the third most senior executive at News Limited, with Mr Ken Cowley acting as chairman and chief executive. Rumours of the Muscat appointment first circulated after a Fairfax board meeting last Wednesday. At that stage, Mr Muscat was said to be on holiday, and the potential choice was not confirmed.

group, and on the unending speculation about Fairfax's future. At present, Mr Black's stake in the publishing group is pegged at 25 per cent by Australia's rules on foreign ownership of media assets. Mr Murdoch's interest is smaller, below the 5 per cent disclosure level.

A new conservative federal government has promised to review media ownership constraints, and while its inquiry has yet to be set up, most observers assume that the review will eventually lead to some sorting-out of Fairfax's ownership. As a result, relations between the three businessmen and their key executives are closely watched.

Aztech Systems in the red

By James Kynge in Kuala Lumpur

The share price of Aztech Systems, Singapore's second largest local electronics company, tumbled yesterday after the company announced a half year operating loss.

Analysts said they were "shocked" at the extent of Aztech's operating losses, mainly because the company had given no warning of the loss. Aztech's share price fell by 18 per cent to 0.56 Singapore cents - a key factor in the wider market's 18 point retreat to 2,273 points. The company's problems raised concerns that other companies in Singapore's electronics sector may also post worse than expected results.

more disappointments along the way," said Mr David Toh, investment analyst at ING Barings in Singapore. Analysts said that although Aztech's main business - the manufacture of "sound cards" which allow computer users to communicate by fax or modem - was profitable, it was hit by the declining operating margins which are affecting the wider sector.

Inkel Corporation (Incorporated in the Republic of Korea with limited liability) To the Holders of the Company's U.S. \$20,000,000 1/2 per cent. Convertible Bonds 2003 (the Bonds) Notice of Meeting Notice is hereby given of a Meeting of Bondholders to be held on 25th July, 1996 at 10.00 a.m. at the offices of Chase Manhattan Trustee Limited (the Trustee) at Woodgate House, Coleman Street, London EC2P 2HD to consider and, if thought fit, approve the following resolutions as Extraordinary Resolutions (as defined in the Trust Deed dated 20th June, 1994 between the Company and the Trustee):

Table with columns: US Dollar amount, percentage, and other financial data. Includes a note: Please see attached for every bondholder to each bondholder to be used to receive the cash dividend...

NOTICE TO BONDHOLDERS China Hsin Cement Corporation (Incorporated as a Company Ltd. by shares in Taiwan, R.O.C.) US \$65,000,000 4 per cent. Bonds Due 2002 Adjustment of Conversion Price NOTICE IS HEREBY GIVEN that as a result of the distribution of stock dividends of 53,024,170 shares by China Hsin Cement Corporation on July 13, 1996, the conversion price of the Convertible Bonds, in accordance with the Trust Deed dated May 24, 1994, has been adjusted from NT \$38 to NT \$36 with effect from July 13, 1996. Dated: June 27, 1996

TANJONG PUBLIC LIMITED COMPANY (Incorporated in England No. 216874) NOTICE OF SIXTY-NINTH ANNUAL GENERAL MEETING NOTICE IS HEREBY GIVEN that the Sixty-Ninth Annual General Meeting of TANJONG PUBLIC LIMITED COMPANY will be held at 12.00 noon, on Wednesday, 24 July 1996 at the Malacca Ballroom III - Ballroom Floor, Hotel Istana, 73 Jalan Raja Chulan, 50200 Kuala Lumpur, Malaysia for the following purposes:

TANJONG PUBLIC LIMITED COMPANY (Incorporated in England under the Companies Act 1948-1917: No. 216874) NOTICE OF EXTRAORDINARY GENERAL MEETING NOTICE IS HEREBY GIVEN that an Extraordinary General Meeting of TANJONG PUBLIC LIMITED COMPANY (the Company) will be held at 12.00 noon, on Wednesday, 24 July 1996 at the Malacca Ballroom III - Ballroom Floor, Hotel Istana, 73 Jalan Raja Chulan, 50200 Kuala Lumpur, Malaysia for the purpose of considering and, if thought fit, passing the following Special Resolutions:

CONTRACTS & TENDERS ANNOUNCEMENT SUPPLY OF X-RAY MACHINES The Ministry of Health of Albania intends to buy with its funds 5 x-ray machines; bidding process will be conducted through Open International Bidding. The Ministry of Health of Albania is pleased to invite all eligible sources which can supply the above mentioned goods. A complete set of bid documents in English may be purchased by any eligible bidder on the submission of written application to the above and upon payment of a non refundable fee of USD 100. Bids will be opened in the presence of those bidders representatives who choose to attend at 12 o'clock, August 15, 1996. For further information you can contact the following address: Investment & Infrastructure Department Ministry of Health, Tirana, ALBANIA Tel: +355 42 64661. Fax: +355 42 64632

CONTRACTS & TENDERS Republic of Albania Albanian Telecom Announcement Albanian Telecom has established to use chipcards as means of payment for the country's payphone system. Card manufacturers are invited to participate on the tender which will be organised on the July 15th, Albanian Telecom headquarters. A detailed description of technical specifications can be found in the following address: Albanian Telecom 41, "Mylyna Shtet" Street, Tirana, Albania. Phone: +355 42 34254 Fax: +355 42 32200 Aleksander Biberaj Vice General Manager

EUROPEAN INVESTMENT BANK ESP 20,000,000,000 Capped Floating Rate Notes Due 1.999 The notes will bear interest at 7.52813% per annum for the interest period 17 June 1.996 (included) to 15 September 1.996 (excluded). Interest payable on 15 September 1.996 will amount to ESP 1,908 per note. Madrid, 17 June 1996 BANCO CENTRAL HISPANO Paying and Collection Agent Banco Central Hispanoamericano, S.A. Central Hispano

FINAULT PRINTEMPS-RODOUTE NOTICE TO HOLDERS OF SHARE PURCHASE WARRANTS EXPIRING ON AUGUST 2, 1996 (SCOMAM code 21910) Holders of Finault-Printemps-Rodoute share purchase warrants (Bons d'Acquisition d'Actions) issued in July 1993 by SAMAG (Société Anonyme de Mogasins) are hereby reminded that said warrants will expire with effect from the close of business on August 2, 1996. The warrants will be struck off the Official List of the close of the business trading session of Friday August 2, 1996. Therefore, any outstanding warrants will be null and void. Each warrant entitles the holder, on payment of the sum of FF 722, to one share of FF 100 nominal value. Holders of warrants wishing to exercise their entitlement are invited to contact their authorized intermediary no later than August 2, 1996. KFW International Inc. Nom. ITL 150,000,000.000 - Floating Rate Notes due 1998 Notice is hereby given that from 25 June 1996 to 30 September 1996 (94 days) the notes will carry an interest rate of 8.16204%, per annum, interest payable on 30 September 1996 will amount to ITL 108,546 per ITL 5,000,000 Note and ITL 1,085,456 per ITL 50,000,000 Note. Agent Bank: Société Européenne de Banque, Société Anonyme

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COMPANY NEWS: UK

# Mobile phone growth slowing

By Alan Cane

The UK mobile telephone business is continuing to show strong growth although not at the strong levels seen last year. Quarterly subscriber figures for the three principal network operators, published yesterday, show Vodafone extending its lead over Cellnet in the overall market and over Orange in digital services. Vodafone's shares gained 5p to close at 245 1/2p, while Orange lost 5 1/2p to close at 219 1/2p. Orange was floated on the main market in March this year at 205p. Vodafone made 273,000 connections gross in the quarter, giving net connections of 106,000. Total UK subscribers amounted to 2,56m, while the number of digital subscribers was 718,000, an increase of 27 per cent during the quarter. Vodafone said this reflected success in attracting new subscribers and retaining customers moving from the older analogue networks to digital. Churn, the number of subscribers leaving the network, was about 20 per cent. Cellnet said gross subscriptions amounted to 261,000, giving a net addition of 89,000 new customers. Total subscribers are now 2.62m of which 495,000 are digital. Churn was 28 per cent. Orange, which launched its network two years ago and offers only digital services, attracted a net 85,000 subscribers and now had 578,000. It was adding on average 30,000 subscribers a month to the network. Churn was 17.6 per cent. All networks are seeing a slowing in customer recruitment as the business matures. Penetration, as a percentage of the population, is low compared with the 20 per cent or more seen in Scandinavia. Mobile Communications, the Financial Times newsletter, notes that Orange's share of net new digital connections has fallen from 39.3 per cent in January before its flotation to 24.2 per cent last month. This is attributed to price-cutting by rivals, together with moves to copy Orange's initiatives, such as pricing calls by the second and combining call charges and line rental in one payment. Mercury One-9-One, the smallest operator, did not release quarterly figures yesterday, but there were estimates that it added 30,000 net subscribers. Sir Gerald Whent, Vodafone chairman was paid £500,000 in salary and benefits last year according to the annual report compared with £561,000 in 1995. Mr Christopher Gent, managing director was paid £250,000 compared with £222,000.

# Cookson acquires Camelot for \$100m

By Tim Burt

Cookson Group, the industrial materials company, yesterday strengthened its presence in electronic components by acquiring Camelot Systems, the US dispenser manufacturer, for up to \$100m. The UK group said the acquisition would make it the world's only integrated manufacturer of electronic materials, laminates and circuit board equipment for the semiconductor industry. The family owners of Camelot, based in Massachusetts, will initially receive \$57m in cash, with a deferred payment of up to \$43m which would become payable if its profits double over the next three years. Last year, Camelot made profits of \$7.7m on sales of about \$40m. Mr Richard Oster, Cookson chief executive, said the acquisition would "complete the jigsaw" in its electronic materials arm. Cookson's largest division, last year had operating profits of £79.8m (\$132m) on sales of \$284.5m. Camelot, which makes dispensers for chemicals and solder creams, has been discussing a possible deal with Cookson for nine months. Mr Oster said it had grown rapidly - gaining 20 per cent of the world market for such dispensers - but did not have the financial muscle to expand internationally. He hinted that the group was considering similar acquisitions, adding that projections for cash flow and borrowings over the next five years should enable it to spend about £500m on bolt-ons. Cookson shares fell 5p to 281p.

# Inspirations seeks £12m in fresh cash call

By Scheherazade Daneshkhu

Inspirations, the package holiday group, yesterday announced its second rights issue in 18 months and the proposed acquisition of Skiers World, a Cardiff-based tour operating company, for up to £1.75m. Mr Vic Fatah, chief executive, said that Inspirations would raise £12.1m net of expenses through a rights issue of 12.7m 7.7 per cent convertible preference shares, on the basis of 2 preference for every 5 ordinary. The shares, at 100p, are convertible at 150p a share in 1999 and the issue is fully underwritten by Beeson Gregory, stockbroker. Inspirations' shares closed 4p down at 125p yesterday. The proceeds of the issue will be partly used to acquire Skiers World, which sells skiing holidays mainly to the US and Canada aimed at the school holiday market. Inspirations said that Skiers World made pre-tax profits of £364,982 on turnover of £2.7m in the year to April 30. It is warranted to achieve pre-tax profits of not less than £900,000 in its current year to April 1997. Mr Fatah said Skiers World was a high margin business with strong winter cashflow which would help reduce Inspirations' seasonal imbalance. Mr Jim Harris, chairman, said the rest of the proceeds would be used to strengthen the group's balance sheet and fund further expansion. Its plans include increasing the number of AT Mays travel agency shops, which it operates through a joint venture with Carlson Travel Group, from 313 to 400, and paying deferred consideration of £2m to British Airways for Caledonian Airways. Inspirations helped fund its £16.6m acquisition of Caledonian from BA in December 1994 through a £7m rights issue. News of the acquisition and rights issued accompanied the company's results for the 8 months to March 31. Pre-tax losses increased from £3.6m to £13.26m on a 95 per cent rise in turnover to £133.1m. It blamed the higher losses partly on the inclusion of Caledonian Airways for the first time in the traditionally loss-making winter period and partly on greater overheads caused by expansion. Mr Harris said Caledonian Airways carried 20 per cent more passengers in winter 1995-96, compared with the previous winter. He said that booking levels for summer 1996 were 5 per cent ahead of last year, and that prices were firmer. Losses per share were 26.38p (8.53p), but the interim dividend was increased rose 11 per cent to 0.78p.

# Thomas Cook strengthens hand by adding Sunworld

By Scheherazade Daneshkhu, Leisure Industries Correspondent

Thomas Cook, the high street travel agent, finally announced yesterday the acquisition of Sunworld, the tour operator privately owned by CVL, the Spanish group, for an undisclosed sum, believed to be £88m (\$88m). The deal, which includes the Oasis Park Hotel, a three-star hotel in Minorca, had been expected last month but was delayed by technicalities. Thomas Cook said buying Sunworld, which has a 5 per cent share of the UK short-haul package holiday market, would strengthen its position in its core UK market. Sunworld is the UK's fifth largest tour operator after Thomson, Air-tours, First Choice and Cosmos-Avro. The five account for about 60 per cent of overseas summer holidays. Mr Peter Long, chief executive of Sunworld and founding shareholder is to leave the business. He said Sunworld needed a strong business partner to accelerate its growth and open up new opportunities. "The time is now right for me to move on," he said. Thomas Cook, which is owned by Westdeutsche Landesbank, turned to Sunworld as its own label supplier last year, after dropping First Choice, the company in which it took a 21 per cent stake in 1993. It has further reduced its stake to 11 per cent, mainly by choosing not to participate in a £44.1m rights issue last October, when First Choice announced profits of only £1.3m after a disastrous summer season. Mr Ulrich Zierke, chief executive of the Thomas Cook group, said the acquisition of Sunworld, which is subject to European Commission approval, was a natural extension of our existing association. Mr Johannes Ringel, chairman, said the deal was a demonstration of WestLB's commitment to the group's travel business. There have been persistent rumours that WestLB might sell off the retail side. Mr Mark McCafferty, the managing director of worldwide travel-related businesses at Thomas Cook said the acquisition was in line with the group's strategy to have a mix of product and distribution as well as a mix of distribution channels. "If you are in tour operating only or retail only, you are vulnerable," he said. Thomas Cook last year reported pre-tax profits of £25.2m after a £20.2m write-down of its shareholding in First Choice.

# Compass to spend \$26m on Florida catering business

By David Blackwell

Compass, the rapidly expanding international contract catering group, virtually doubled its presence in the US education sector yesterday with the acquisition of a private Florida caterer serving colleges and universities. It is paying up to \$26m for Professional Food-Service Management (PFM), which has 100 accounts in 27 states. Sales in the year to August 31 were \$89.5m. The deal almost doubles Compass's sales to US educational establishments to \$200m a year. While this is less than half the sales of market leader Marriott, it does put the group firmly in fourth place behind Sodexo and Aramark. This deal marks a big stride in catching up with the opposition, said Mr Mike Bailey, head of Compass in the US, in New York yesterday. The US education market was worth \$19m a year and was under-contracted, Mr Bailey said. He expected rapidly to drive margins at the acquisition up to 4 per cent - the level Compass has achieved at Can-

teen, its US business acquired just over two years ago. Compass's existing business in education was mainly in schools, while PFM's accounts were principally with colleges and universities. The combination of the two would allow the group to compete far more effectively in the US education sector, said Mr Bailey. The consideration of \$24m on completion is payable partly in cash, partly through a \$2.5m loan note and partly through the issue of 1.74m shares. The shares closed unchanged yesterday at 536p. The balance of \$2m is payable in two years, subject to performance. Mr Larry Pande, the vendor who built the business over 30 years, is joining Compass as a consultant. The rest of the PFM management team is being retained. Last month, Compass completed the acquisition of Euret France by paying FF590m (\$114m) to buy out the interest held by its rival Sodexo, the leading French contract caterer that also owns Gardner Merchant of the UK.

NEWS DIGEST

# Pillsbury in South American purchase

Pillsbury, a US subsidiary of Grand Metropolitan, yesterday bought São Paulo-based Frescarini, Brazil's leading manufacturer of refrigerated dough and fresh pasta for an undisclosed sum "not material to GrandMet shareholder funds". Frescarini is being sold by LFC, a division of the French multinational Danone and a manufacturer in Brazil of dairy products. The Frescarini business has annual sales of \$45m (£29m). It includes refrigerated dough for Pastetes (snacks) and pizza, in addition to fresh pasta. It has tripled in size since 1993. Lucio Rizzi, president of Pillsbury International, commented: "Frescarini gives us leadership in refrigerated dough in a very important growth market."

# Quantum buys Lloyd's stake

Mr George Soros's Quantum Fund has bought a 4.4 per cent stake in Hiscox Select, the Lloyd's of London investment company. The move follows a revival in investor interest at Lloyd's, which hopes to implement its recovery plan in August. Earlier this year, Mr Soros acquired a 3.6 per cent stake in CLM Insurance Fund, another Lloyd's investment vehicle. *Ralph Atkins*

# In Brief

■ IMI has acquired Mosier Industries of Ohio, a maker of pneumatic actuators, for \$4.7m (£3.1m). The deal was effected through IMI Norge, part of its fluid power operation. ■ VOSPER TECHNOLOGY, the warship builder, has acquired Maritime Dynamics, the US manufacturer of ride control systems for fast ferries, for \$8.5m (£5.6m) cash. The UK group predicted the two companies, which have worked together for several years, would develop new technology and products for international ferry operators.

RESULTS

Company	Turnover (£m)	Pre-tax profit (£m)	EPS (p)	Current dividend (p)	Date of payment	Dividends compared with last year	Total for year	Total last year
Barclays	334.3 (203.4)	45.4 (37.6)	34.8t (31.4)	8.2	Sept 2	5.65	8.5	7.75
Brunswick	40 (39)	2.55 (1.01)	2.25 (1.03)	0.55	Oct 24	0.35	0.53	0.58
Cassidy Brothers	7.04 (7.32)	0.491 (0.531)	8.37 (8.78)	2.25	Aug 23	2.25	3	3
Deasys	22.82 (21.52)	20.53 (22.92)	89 (102.9)	19	Oct 1	20	35	32
Energy Capital	1.68m (0.472m)	1.55 (0.157)	5.77 (0.51)	4	Aug 29	-	4	-
Harrolds	213.4 (187.8)	0.039d (4.7p)	0.21j (1.5)	0.32	Sept 9	0.22	0.48	0.32
Inspirations	6 mths to Mar 31	132.1 (67.8)	13.3 (8.61)	28.38t (8.52)	Aug 23	0.7	7.3	3.5
Marshall Thompson	53 mths to Mar 31	171.9 (158.4)	27.3 (24.8)	24.96 (20.56)	Aug 10	4.8	7.3	6.58
Microline	15 mths to Mar 31	2.89 (2.28)	0.222 (0.054)	1.6 (0.34)	1	1	1	1
Midwesthouse 5	15 mths to Dec 31	1.01 (0.518)	0.48L (0.282d)	17.3L (10.4L)	1	1	1	1

Earnings shown basis. Dividends shown net. Figures in brackets are for corresponding period. †After exceptional charge. ‡After exceptional credit. ††Increased capital. □Net result before tax. \*Comparatives restated and cover 11 months. †††Gross revenue. ††††Comparatives for 12 months. S&P 500 stock.

## Financial Times Surveys Announcement

The Ghana and Romania surveys scheduled to appear on Friday 5 July will now be published on Tuesday 9 July

FT Surveys

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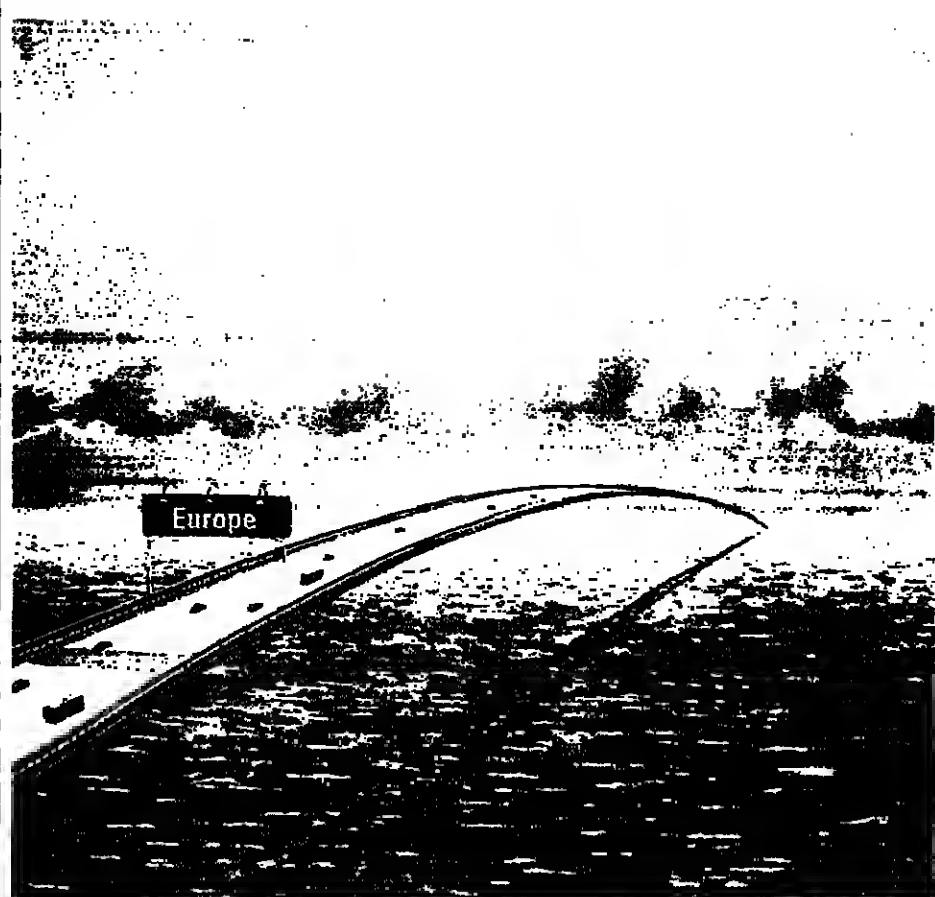
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(Incorporated in Canada under the Canada Business Corporations Act)

Introduction to  
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Application has been made to London Stock Exchange for 362,745,627 issued common shares without nominal or par value in Canadian Pacific Holdings Limited ("New CPL") to be admitted to the Official List. The common shares are being issued pursuant to a reorganisation of the corporate structure of Canadian Pacific Limited ("Old CPL") by a statutory arrangement under the Canada Business Corporations Act which is expected to become effective on, or shortly after, 3 July 1996 (the "Effective Date"). The ordinary shares of Old CPL will be exchanged for common shares in New CPL on a one for one basis and the preference shares of Old CPL will be converted into common shares of New CPL in the ratio of one common share for every 4,265 preference shares.

Old CPL will be renamed Canadian Pacific Railway Company and New CPL will be renamed Canadian Pacific Limited on the Effective Date.

It is anticipated that admission of the common shares of New CPL will take place, and that dealings in such shares will commence at 2.30pm, on the Effective Date. At the same time the common shares and preference shares of Old CPL will be de-listed.

**The Deputy Secretary and Registrar**  
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June 1996

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INTERNATIONAL CAPITAL MARKETS

Strong housing figures send Treasuries lower

By Lisa Brannett in New York and Samer Iskandar in London
Another set of surprisingly strong housing figures sent US Treasury prices lower in early trading yesterday as the Federal Reserve's Open Market Committee began its two-day meeting to consider monetary policy.

activity in the housing sector. Economists had expected new home sales to have fallen to 740,000.
While most on Wall Street had discounted the chances that the Fed would boost interest rates at this week's FOMC meeting, some economists suggested yesterday that the strong housing data might spur the Fed to tighten sooner rather than later.

tion to a 0.3 per cent increase in the index of leading economic indicators for May, which was largely what economists had forecast.
The weakness of US Treasuries spilled into European markets unevenly, with Italian bonds showing the best performance.

with those of German bunds will depend on the outcome of the US Fed's FOMC meeting.
"Provided the Fed does not tighten monetary policy, the spread [of BTP yields over bunds] could go down to around 250 basis points in the medium term," said Ms Maria Owens Thomson, chief economist at BIP-Dresdner in Paris.

French bonds were dragged down by falling Treasuries and bunds. Maffei's September national future closed at 121.82, down 0.06, after reaching a low of 121.76.

Matiff, the French financial futures exchange, yesterday announced a reduction in the margin requirement for its national and Ecu bond contracts and its futures on three-month Fibor rates, due to lower market volatility.

Steady flow of smaller deals in wide range of currencies

By Connor Middelmann
With this week's horizon clouded by events in the US - the ongoing meeting of the Federal Open Market Committee, Thursday's Independence Day and Friday's jobs data - large, en bloc transactions appear to have been put on hold. Nevertheless, the market saw a steady flow of smaller deals yesterday in a wide range of currencies.

Given that Discover is a less well-known name and its deal was larger, this reflected strong investor demand, said lead manager Merrill Lynch.
An official said the bonds were placed mainly among US and European money market funds as well as banks, corporate treasuries and fund managers around Europe.

ket funds, corporates and banks, mainly in the UK.
UK supermarket chain J. Sainsbury launched \$300m of three-year bonds priced to offer a substantial yield pick-up over similarly rated corporate bonds in that maturity, at a re-offer spread of 25 basis points over Treasuries, it compared favourably with McDonald's bonds due December 1999 which trade at 8 basis points over Treasuries, and Hewlett-Packard bonds yielding 12 basis points more, a dealer at lead Goldman Sachs said.

Two Latin borrowers also tapped the dollar market for more risk-seeking investors, the unrated City of Rio de Janeiro issued \$125m of one-year bonds priced to yield 400 basis points over Treasuries, via Merrill Lynch, while Banco de Inversiones y Comercio Exterior, the Argentine foreign trade bank, issued \$100m of two-year, government-guaranteed bonds yielding 240 basis

points over Treasuries, via UBS.
The Czech koruna sector saw the third new issue in as many months, a K&L5bn two-year offering for the International Financing Corporation, the World Bank's private financing

arm. The World Bank and the European Bank for Reconstruction and Development issued one-year deals in recent weeks; all three deals were led by ING Barings, which is keen to become a leading player in this market.

Saab plans \$1bn facility as part of wider refinancing

By Antonio Sharpe
Saab, the Swedish car manufacturer, is seeking to raise \$1bn through a five-year syndicated loan as part of a wider plan to put the company on a sound financial footing.

Several Swedish facilities have been increased due to the strong interest from the market, suggesting that any credit concerns which banks may have had as a result of the country's problems in recent years have faded.

SYNDICATED LOANS

Wallenberg empire, are to pump SKr3.46bn (\$320m) into Saab in a refinancing deal that should lead to a complete takeover by GM.
The facility will replace a \$750m loan which Saab took out in 1991 and provide the company with additional funding. J.P. Morgan declined to give details on pricing but it is believed that it could be in line with that on an outstanding \$120m five-year transaction for Saab's US financing arm, which was priced at between 40 and 42.5 basis points over London interbank offered rates.

Other high-profile facilities have also been increased, suggesting that banks are still flush with cash. The \$500m loan for SPT Telecom of the Czech Republic, which had been put on hold because of a legal dispute, is set to be increased by about 50 per cent after attracting \$1bn from the market. The loan, led by Chase and Citibank, should be signed next week.

New international bond issues

Table with columns: Issuer, Amount, Coupon, Price, Maturity, Fees, Spread, Book-runner. Includes entries for Westpac Banking Corp, City of Rio de Janeiro, BNP Paribas, etc.

Table: BENCHMARK GOVERNMENT BONDS. Columns: Country, Coupon, Price, Yield, Week, Month. Includes Australia, Austria, Belgium, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Portugal, Spain, Sweden, UK, US Treasury.

Table: INTERNATIONAL BOND FUTURES. Columns: Instrument, Price, Change, High, Low, Est. vol., Open Int. Includes US Treasury, UK Gilts, etc.

Table: FT-ACQUIRES FIXED INTEREST INDICES. Columns: Index, Price, Change, High, Low, Est. vol., Open Int. Includes UK Gilts, etc.

Table: FT FIXED INTEREST INDICES. Columns: Index, Price, Change, High, Low, Est. vol., Open Int. Includes US Treasury, UK Gilts, etc.

Table: US INTEREST RATES. Columns: Instrument, Rate, Change. Includes Treasury Bills and Bond Yields, Prime rate, etc.

Table: US TREASURY BOND FUTURES (CST). Columns: Instrument, Price, Change, High, Low, Est. vol., Open Int. Includes 10Y, 20Y, 30Y.

Table: FT/ASIA INTERNATIONAL BOND SERVICE. Columns: Issued, Bid, Offer, Chg., Yield. Includes US DOLLAR STRAIGHTS, etc.

Table: FT/ASIA INTERNATIONAL BOND SERVICE. Columns: Issued, Bid, Offer, Chg., Yield. Includes US DOLLAR STRAIGHTS, etc.

Table: UK GILTS PRICES. Columns: Issue, Price, Change, High, Low, Est. vol., Open Int. Includes Treasury Bills, etc.

Table: OTHER FIXED INTEREST. Columns: Instrument, Price, Change, High, Low, Est. vol., Open Int. Includes Corporate bonds, etc.

Table: OTHER FIXED INTEREST. Columns: Instrument, Price, Change, High, Low, Est. vol., Open Int. Includes Corporate bonds, etc.

Table: CONVERTIBLE BONDS. Columns: Issued, Bid, Offer, Chg., Yield. Includes various convertible bond issues.

Disclaimer text: The yield is the yield to maturity of the bond... The spread is the spread over the relevant benchmark... etc.







COMMODITIES AND AGRICULTURE

Academics urge radical reform of UK farm ministry

By Alison Maitland
Modelling an independent UK food agency on the US Food and Drug Administration is not necessarily the answer to the problems highlighted by the beef crisis, according to four food policy specialists.

criticism of the ministry for placing food producers' interests above those of consumers, contributing to a crisis of confidence in food safety.

ground with Mr Douglas Hogg, UK agriculture minister. He said this week that there were "very considerable advantages in having a minister responsible for the entire food chain".

protection to the Department of Health, leaving a truncated MAFF.

and hamper a co-ordinated food policy.

Dutch allow more time for clean-up at zinc smelter

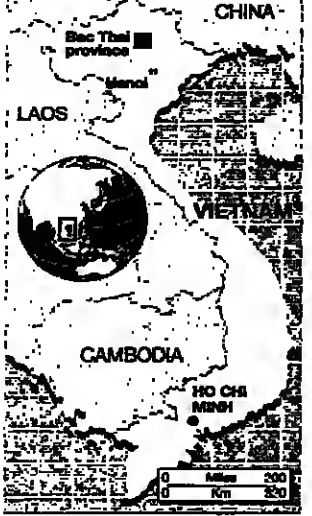
By Gordon Cramb
In Amsterdam and Nikk Tait
in Sydney

end of September.
Yesterday, Mr David Stewart, Pasminco's chief executive, said his company had contacted the Dutch authorities and received support, in principle, for the jarosite extension.

Lead/zinc ore puts Bac Thai on the map

The Vietnamese province is attracting increasing foreign interest, writes Jeremy Grant

With its steep limestone hills, dense jungle and rustic feel, Cho Don township in Vietnam's northern Bac Thai province seems an unlikely candidate for attracting foreigners with speculative dollars.



At a price.
About a dozen foreign mining companies, mostly Australian - have dipped into exploration. But none has been able to do much beyond preliminary surveying in the absence of a legal framework for foreign mining.

ling operations, Mr Fearless inspects potential sites elsewhere. Evenings are usually spent poring over rock samples and maps under naked light bulbs in a bare office, rented from the Cho Don people's committee.

Cho Don openly display piles of ore they have collected in front of their wood and thatch homes.

MARKET REPORT
Copper price gains trimmed

COPPER prices lost some of their morning gains at the London Metal Exchange yesterday afternoon as Sumitomo developments continued to dominate the market.

The Dutch authorities have agreed to give Pasminco of Australia more time before it has to halt dumping of poisonous jarosite waste at its Budel zinc smelter in the south of the country.

COMMODITIES PRICES

BASE METALS
LONDON METAL EXCHANGE
Aluminum, Copper, Lead, Nickel, Zinc prices and changes.

Precious Metals continued
Gold COMEX, Platinum NYMEX, Palladium NYMEX, Silver COMEX prices.

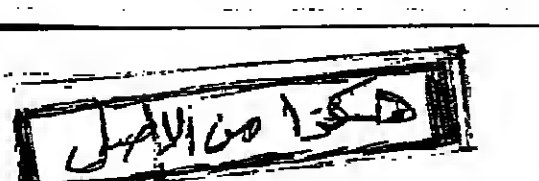
GRAINS AND OIL SEEDS
Wheat LCE, Soybean Meal, Soybean Oil, Soybean Meal C, Soybean Oil C prices.

SOFTS
Cocoa LCE, Coffee LCE, Sugar '11' CSCE prices.

MEAT AND LIVESTOCK
Live Cattle CME, Live Hogs CME, Pork Bellies CME prices.

LONDON TRADED OPTIONS
Aluminum LME, Copper LME, Nickel LME, Zinc LME prices.

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Across: 1. Medic hanging grass... 7. Force school to provide board... 10. Article about expert's protective clothing... 11. Trade arrangement accepted by N. African empire... 12. Colour of an active force in Morocco... 13. Mount many a member... 14. In pairs, is sylvan returning to former state... 15. Or turning pale as ash... 16. Delight with tendency to lose head... 17. Musicians with a lot of stories of old playing... 18. Lord of Belgian city... 19. Reliable source of terms to hotbox... 20. Alternatively order it in compiler's dark state... 21. Musical heroine doing a pub turn makes early start... 22. Nervous, clapping girl - one getting time off... 23. Sin City supplies turf to order... 24. Unconventional treatment for rare lung...





FT MANAGED FUNDS SERVICE

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OFFSHORE AND OVERSEAS

BERMUDA (SIB RECOGNISED)

Table listing Bermuda funds including Family Currency Funds Ltd, British Overseas Investment Management, and others with columns for Name, Price, and % Change.

BERMUDA (REGULATED)\*\*

Table listing regulated Bermuda funds including British Overseas Investment Management, British Overseas Investment Management, and others with columns for Name, Price, and % Change.

GUERNSEY (SIB RECOGNISED)

Table listing Guernsey funds including British Overseas Investment Management, British Overseas Investment Management, and others with columns for Name, Price, and % Change.

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IRELAND (SIB RECOGNISED)

Table listing Ireland funds including British Overseas Investment Management, British Overseas Investment Management, and others with columns for Name, Price, and % Change.

IRELAND (REGULATED)\*\*

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ISLE OF MAN (SIB RECOGNISED)

Table listing Isle of Man funds including British Overseas Investment Management, British Overseas Investment Management, and others with columns for Name, Price, and % Change.

ISLE OF MAN (REGULATED)\*\*

Table listing regulated Isle of Man funds including British Overseas Investment Management, British Overseas Investment Management, and others with columns for Name, Price, and % Change.

ISLE OF MAN (SIB RECOGNISED)

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ISLE OF MAN (REGULATED)\*\*

Table listing regulated Isle of Man funds including British Overseas Investment Management, British Overseas Investment Management, and others with columns for Name, Price, and % Change.

Advertisement for Garden Brasseries with text: 'WHEN THE MARKETS CLOSE, THE GARDEN BRASSERIES STILL TRADE. You can enjoy a meal at any time from 5.00pm to midnight in the Garden Brasserie of any of our 18 hotels up and down the UK. Welcoming news indeed, whatever time you do business. For more information, call 0161 748 3433.'

Large vertical advertisement on the left side of the page, partially obscured by a crossword puzzle grid. Visible text includes 'allow more or clean-up smelter' and 'CROSSWORD'.

Small text at the bottom of the Garden Brasseries advertisement.



Offshore Funds and Insurances

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FT MANAGED FUNDS SERVICE

Main table containing financial data for various funds, including columns for fund names, asset values, and performance metrics. Includes sub-sections like 'LUXEMBOURG (SIB RECOGNISED)' and 'OFFSHORE INSURANCES'.

JAVICO LTD

OTHER OFFSHORE FUNDS



Handwritten text: 15 JUL 1996

FT MANAGED FUNDS SERVICE

Offshore Insurances and Other Funds

FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 673 4378 for more details.

Main table containing fund names, prices, and performance metrics. Includes sections for 'Other Offshore Funds' and 'Managed Funds Notes'.

CNBC advertisement: 'There's no time like the present to check your futures. Live 24-hour global business TV.'

OTHER OFFSHORE FUNDS

Table listing various offshore funds and their details.

Managed Funds Notes: A detailed section providing information and disclaimers for managed funds.







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LONDON SHARE SERVICE

NEW TRUSTS SPLIT CAPITAL - Cont.

Table listing various trusts and their financial details, including names like 'The British Trust for Africa' and 'The British Trust for International Development'.

OTHER INVESTMENT TRUSTS

Table listing other investment trusts and their performance metrics.

INVESTMENT COMPANIES

Table listing investment companies and their share prices.

LEISURE & HOTELS

Table listing leisure and hotel companies and their share prices.

LEISURE & HOTELS - Cont.

Table listing leisure and hotel companies (continued).

LIFE ASSURANCE

Table listing life assurance companies and their share prices.

MEDIA

Table listing media companies and their share prices.

OIL EXPLORATION & PRODUCTION

Table listing oil exploration and production companies and their share prices.

OIL INTEGRATED

Table listing oil integrated companies and their share prices.

OTHER FINANCIAL

Table listing other financial companies and their share prices.

PROPERTY

Table listing property companies and their share prices.

OTHER FINANCIAL - Cont.

Table listing other financial companies (continued).

PAPER, PACKAGING & PRINTING

Table listing paper, packaging, and printing companies and their share prices.

PHARMACEUTICALS

Table listing pharmaceutical companies and their share prices.

PROPERTY

Table listing property companies (continued).

RETAILERS, GENERAL - Cont.

Table listing general retailers (continued).

SUPPORT SERVICES

Table listing support services companies and their share prices.

TELECOMMUNICATIONS

Table listing telecommunications companies and their share prices.

PROPERTY - Cont.

Table listing property companies (continued).

RETAILERS, FOOD

Table listing food retailers and their share prices.

RETAILERS, GENERAL

Table listing general retailers (continued).

RETAILERS, GENERAL - Cont.

Table listing general retailers (continued).

SUPPORT SERVICES

Table listing support services companies (continued).

TELECOMMUNICATIONS

Table listing telecommunications companies (continued).

TEXTILES & APPAREL

Table listing textiles and apparel companies and their share prices.

SUPPORT SERVICES - Cont.

Table listing support services companies (continued).

TELECOMMUNICATIONS

Table listing telecommunications companies (continued).

TEXTILES & APPAREL

Table listing textiles and apparel companies (continued).

TOBACCO

Table listing tobacco companies and their share prices.

TRANSPORT

Table listing transport companies and their share prices.

WATER

Table listing water companies and their share prices.

AM

Table listing American companies and their share prices.

CANADIANS

Table listing Canadian companies and their share prices.

AM - Cont.

Table listing American companies (continued).

AMERICANS

Table listing American companies (continued).

CANADIANS

Table listing Canadian companies (continued).

SOUTH AFRICANS

Table listing South African companies and their share prices.

GUIDE TO LONDON SHARE SERVICE

Price for the London Share Service delivered by FT Data, a member of the Financial Times Group. Company classifications are based on those used for the FT-SE Actuaries Share Index.

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LONDON STOCK EXCHANGE

MARKET REPORT

Equities struggle to stay ahead on the day

By Steve Thompson, UK Stock Market Editor

Some worrying US economic data on home sales promoted a bout of profit-taking on Wall Street and unnerved a UK equity market anxious for more good news after the gains recorded during the previous two sessions.

The Footsie ended just 0.1 ahead at 3,726.7. Second-line issues spent the session chasing the leaders, but the FT-SE Mid 250 index still managed to outperform the leading index, finishing 5.6 firmer at 4,376.0.

The Mid 250's outperformance was said by dealers to have reflected a late burst of takeover speculation in some utilities stocks, notably East Midlands Electricity, which raced up just before the close on talk of an imminent bid.

There was also keen takeover speculation in other areas of the market, with Yorkshire-Tees Television sharply higher amid talk that Granada was about to pounce.

The poor closing performance was in stark contrast to the bullish feeling around the market at the outset of trading. Wall Street's 75-point jump overnight, in spite of the marked reluctance by US Treasury bonds to move ahead, gave London's marketmakers every reason to lift their opening quotations.

There was evidence that many more traders and fund managers were in the market yesterday and turnover was up sharply from

into pockets of selling pressure that gradually eroded share prices. Talk around the City's dealing desks suggested that the market was not wholly convinced about the health of Mr Boris Yeltsin, who is campaigning for the presidency of Russia and whose potential defeat was seen as one of the more worrying international factors.

But it was the news on US home sales, which came in much higher than expected, that reminded London of the worries of an increase in US interest rates.

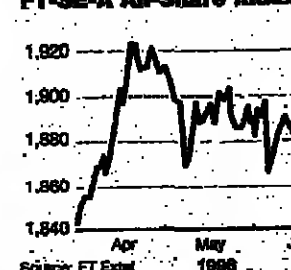
There was evidence that many more traders and fund managers were in the market yesterday and turnover was up sharply from

recent levels. Tradepoint, the order-driven trading system, said that it had enjoyed its second-biggest turnover.

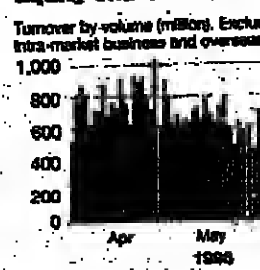
Volume at 6pm was 871.8m shares, a figure which included Argyl's buyback of 60m shares, or 5.2 per cent of its issued capital. The total was also enhanced by the placing by SBC Warburg of 40m shares in Jarvis Hotels.

Senior dealers were split over the short-term outlook for the market. One said that the prospects for big bids were shrinking with every day, as the election approached, while others maintained that the "feel-good factor" was increasingly evident.

FT-SE-A All-Share Index



Equity shares traded



Indices and ratios

Table with 2 columns: Index Name and Value. Includes FT-SE 100 (3725.7), FT-SE Mid 250 (4376.0), FT-SE-A 350 (1878.8), FT-SE-A All-Share (1863.54), FT-SE-A All-Share yield (3.85), FT Ordinary Index (2737.0), FT-SE-A Non Fin P/Es (16.85), FT-SE 100 P/E Jul (37.17), 10 yr Gilt yield (5.28), Long gilts/equity yld ratio (2.15).

Best performing sectors

Table with 2 columns: Sector and Change. Top performers include Breweries Pubs & Rest (+0.6), Banks Retail (+0.5), Household Goods (+0.5), Engineering: Vehicles (+0.5).

Wimpey out of step

George Wimpey stood out in an otherwise bubbling house-building sector, sliding more than 7 per cent after a profits downgrade from SBC Warburg.

The broker, a long-term bear of the stock, was said to have cut back by 52m to 237m for this year and to have urged clients to switch into Barratt Developments.

Shares in Wimpey surrendered 12 to 147p in above average turnover of 2.5m, while Barratt edged ahead 2 to 264p.

The general run of housing stocks stayed on the upside, underpinned by a reiterated buy recommendation for Taylor Woodrow from Charterhouse Tilney and good results from South of England builder Berkeley.

Forecasts for house price growth range up to 6 per cent per annum for the next few years, and it is clear that the outlook for the builders' gross margins is greatly improved.

Southern, of the US, increased speculation about another bid in the sector.

Southern sold a 25 per cent stake in South Western Electricity to raise £121.5m. It has also sold the shares in National Grid which were allotted to SWEB. And while it still retains 75 per cent of SWEB, it has a cash pile which is earmarked for investment in the UK or Europe.

One obvious target, because of the geographical overlap with SWEB, would be Wessex Water, which was up 7% earlier in the session before closing 4% ahead at 354p.

However, Southern is quite capable of swallowing a bigger fish and Thames Water is also seen to be an eligible candidate, as is Southern Electric. Thames finished 8 stronger at 577p and Southern Electric 2 up at 72p.

Just before the close of dealing, East Midlands Electricity - which published its report and accounts yesterday - jumped 14 to 543p.

Orange came off sharply, as investors shied away from the stock following its latest net subscriber numbers. These were said to compare flatly with recent figures from mobile phones rival Vodafone.

The group's subscriber growth remains on target, and its churn rate - subscriber withdrawals - is the lowest in the sector," said one leading telecoms analyst.

Securicor gained 4 to 279p for a two-day advance of 19 following a recent "undervalued" note from ABN Amro Hoare Govett. The broker described the stock as "cracking value".

Yorkshire-Tees Television jumped 7% to 123p. The stock has been highlighted as a potential takeover target in the light of final approval for the Broadcasting Bill. Royal assent is expected at the end of the week and Granada is seen as the most likely aggressor.

Carlton is also reckoned to be running its ready reckoner over Yorkshire as well as showing some interest in ITV. Scottish Television has also been cited as easy prey. Scottish rose 8 to 640p but HTV was flat at 329p following a

good run. Carlton slipped 3 to 511p and Granada 11 to 949p.

Zeneca continued its recent rise in early trading but fell later in response to a sell-off on Wall Street.

The early move reflected renewed takeover speculation and growing optimism about the drug maker's prospects. There was further support from Standard & Poor's, the US credit rating agency which raised the senior debt rating of subsidiary Zeneca Wilmington to AA- from A+.

S&P said the rating upgrades reflected significant improvements over the past three years in Zeneca's business risk and financial posture. Previously Zeneca has been seen as a target for Roche, of Switzerland, but Glaxo Wellcome has been considered a plausible bidder. News that Zeneca's Arimidex anti-breast cancer drug was approved for use in Germany, Austria and

Italy also buoyed sentiment. Zeneca lost 6 to 1424p. Glaxo closed 7 off at 869p.

Oil major BP improved 8 to 579 1/2p in the wake of broker recommendations.

Argyl Group closed off 3 at 346p, after the company acquired 5.26 per cent of its capital at 346p a share. The buyback, which was carried out by BZW and Panmure Gordon, resulted in turnover to 122m shares. It was said to be in line with targets set by analysts in May when the plans were first announced.

HSBC moved ahead 15 to 1029p after HSBC James Capel upgraded its 1996 profits forecast by 7.2 per cent and its earnings per share estimate by 10.2 per cent. Capel also moved its recommendation to buy from hold. The upgrade reflects a positive outlook for the bank's margins, low demand, especially in Hong Kong, the group's improving credit quality and continued control of costs.

Abbey National pushed 5 higher to 556p after Williams da Broé and Charterhouse Tilney responded to encouraging news about the housing market by recommending the shares in the banking group.

British Airways weakened as the regulatory spotlight was given additional focus by plans for UK-US and European Union probes in the airline link-up. Shares in BA, which recently announced an alliance with American Airlines, shed 5 to 544p. The group announces June traffic figures today.

Rumours that the E20m Nimrod contract could be decided later this week put some life into defence stocks.

FUTURES AND OPTIONS

Table with 2 columns: Index Name and Value. Includes FT-SE 100 INDEX FUTURES (L1FE) £25 per full index point, FT-SE Mid 250 INDEX FUTURES (L1FE) £10 per full index point, FT-SE 100 INDEX OPTION (L1FE) £10 per full index point, EURO STYLE FT-SE 100 INDEX OPTION (L1FE) £10 per full index point.

Table with 2 columns: Index Name and Value. Includes FT-SE 100 INDEX OPTION (L1FE) £10 per full index point, EURO STYLE FT-SE 100 INDEX OPTION (L1FE) £10 per full index point.

MARKET REPORTERS:

Peter John, Jeffrey Brown.

LONDON RECENT ISSUES: EQUITIES

Table with 4 columns: Issue Name, Price, Change, and Volume. Lists various companies like 3i, Biffaward, British Airways, etc.

FT GOLD MINES INDEX

Table with 2 columns: Index Name and Value. Includes Gold Mines Index (202.27), Africa (13), Australia (7), North America (12), Oceania (10), South America (10), Europe (10), Asia (10).

TRADING VOLUME

Table with 2 columns: Major Stocks Yesterday and Volume. Lists companies like BT, AstraZeneca, etc.

Financial Publishing Insurance advertisement. Includes text: 'With the increasing complexities and competition within the insurance market it is crucial that you stay aware of the core developments shaping the global insurance industry.' Lists various insurance products and contact information for FT Financial Publishing.

FT-SE Actuarial Shares Index and The UK Series. Large table with multiple columns showing share prices, changes, and various financial metrics for different sectors and companies.

Handwritten signature: JAVICO 150



WORLD STOCK MARKETS

Main table of world stock markets with columns for region (EUROPE, ASIA, etc.), stock name, and price/percentage change.

Advertisement for Rockwell: 'From automotive to automation, Rockwell gets your business moving' with Rockwell logo.

INDICES table showing various market indices like Nikkei, Dow Jones, and regional indices with their respective values and changes.

US INDICES table showing US market indices such as S&P 500, Dow Jones Industrial Average, and NASDAQ.

ASIA table listing stock prices and changes for various Asian markets including Japan, Hong Kong, and others.

AUSTRALIA table listing stock prices and changes for the Australian market.

AFRICA table listing stock prices and changes for African markets.

INDEX FUTURES table showing futures prices for various indices.

US RATIO table showing various financial ratios and their values.

NEW YORK ACTIVE STOCKS table listing active stocks in the New York market.

TOKYO - MOST ACTIVE STOCKS table listing the most active stocks in the Tokyo market.

NEW YORK - MOST ACTIVE STOCKS table listing the most active stocks in the New York market.

Footnote and disclaimer text at the bottom of the page.



NEW YORK STOCK EXCHANGE PRICES

Main table of stock prices with columns for stock symbols, prices, and changes. Includes sub-sections for 'A-D', 'E-H', 'I-L', 'M-P', 'Q-R', and 'S-Z'.

Advertisement for Hewlett-Packard with the text 'Perfect synergy. If the business decisions are yours, the computer system should be ours.' and the HP logo.

JAVICO LTD

Continued on next page



NYSE PRICES

Table of NYSE stock prices including columns for stock name, price, change, and volume. Includes sub-sections for NYSE, NYSE, and NYSE.

NASDAQ NATIONAL MARKET

Table of NASDAQ National Market stock prices including columns for stock name, price, change, and volume. Includes sub-sections for NASDAQ, NASDAQ, and NASDAQ.

AMEX PRICES

Table of AMEX stock prices including columns for stock name, price, change, and volume. Includes sub-sections for AMEX, AMEX, and AMEX.

Advertisement for Financial Times hand delivery in Warsaw, featuring the text 'Have your FT hand delivered in Warsaw' and 'the edge over your competitors by having the Financial Times delivered to your home or every working day.'

Continuation of NASDAQ National Market stock prices from the previous section, including sub-sections for NASDAQ, NASDAQ, and NASDAQ.



AMERICA

Shares fall on tech warnings, rate concerns

Wall Street

Technology shares gave up ground at midsession, following a spate of profit warnings from some of the sector's leading companies, writes Lisa Branstetter in New York.

Industrial Average was 14.04 weaker at 5,715.94, the Standard & Poor's 500 had shed 2.00 to 673.88 and the American Stock Exchange composite was off 0.16 at 580.07.

Morgan Stanley added 1% or 3 per cent at \$50.45 after starting record second quarter earnings, due mostly to investment banking activity.

On the Dow, Minnesota Mining & Manufacturing slid 2%, or 3 per cent, to \$69.47 after Prudential Securities cut its rating on the company, and Procter & Gamble lost 1% at \$69.75.

Advancing issues among the Dow 30 stocks included Boeing, which added 1% at \$91.14, and Exxon, up 1% at \$38.75.

Canada Toronto outperformed Wall Street at midsession as the market sought to catch up with New York's gains on Monday, when Canadian markets were closed for a holiday.

The TSX-300 composite index was 21.73 higher by noon at 5,055.80, but in weak volume of just 27.1m shares.

Analysts noted that equities were helped by a growing conviction that the US Federal Reserve was unlikely to raise interest rates at the two-day FOMC meeting which began yesterday.

The mood, however, was soured in part by the host of earnings warnings from US high-technology stocks.

Alean Aluminum shrugged off a rating downgrade by Smith Barney, the US broker, to trade flat at C\$41.55.

Among heavily traded stocks, TXV Gold picked up 5 cents to C\$10.05.

Milkyway Networks shares, which made their debut on the exchange, traded as high as C\$43.25 before pulling back to C\$43.20, compared with an initial offer price of C\$31.

At 1 pm, the Dow Jones

EUROPE

CS Holding soars 12% on major restructuring

CS Holding put in a powerful performance in ZURICH after the bank announced a major restructuring, including a new name, a new CEO and the investment of its non-core business.

CS Holding jumped SF14.50, or 12.1 per cent, to SF134.50, while Elektrowatt, in which CS said it wanted to sell its 44.9 per cent stake, gained SF2.4 to SF74.83.

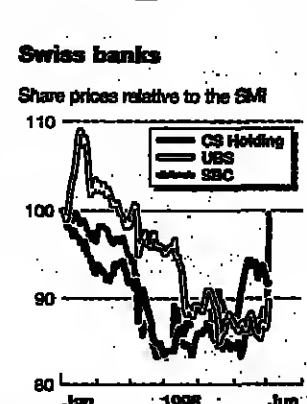
The planned sale of industrial activities by CS also gave a boost to UBS as investors had long expected the bank to take a similar step. UBSearer shares put on SF9.90 to SF121.20 while SBC, the third of the big three Swiss banks, picked up SF1.75 to SF245.75.

Shares of Motor Columbus, in which UBS has a stake, climbed SF35 to SF2,485 on the view that it was a potential partner for Elektrowatt.

Taking the opposite tack, Swiss Re, whose current CEO, Mr Lukas Muehleman, will become the new Credit Suisse Group's chief executive officer, lost SF1.25 to SF1,265, after a low of SF1,250, in response to his planned departure.

Activity in the banking sector took the broad market to an all-time high as the SMI index rose 23.6 to 3,750.8.

However, Mr Ian McEwen at Lehman Brothers said that the market appeared to be taking a



Share prices relative to the SMI

Source: FT Data

"flier" by pushing the CS Holding share price up so sharply, since the restructuring plan did not appear particularly radical. He thought that the Swiss banking sector was beginning to look overvalued, but did not rule out the possibility that the shares had potential for a further rise.

FRANKFURT's record peak was all too fragile. The Dax index came back from a morning high of 2,586.53 to an end-of-day close of 2,566.32, down 8.12, as sentiment soured on Wall Street. Turnover was DM7.4bn.

The shock of the day, however, came outside the Dax 30. Jungheinrich said that it did not expect an improvement in

operating earnings this year, and that its net profits would be hit by restructuring costs.

Mr Stefan Muelheim, at Dillon Read, said that he had cut his earnings for the forklift maker from DM14.50, to a DM9.50 to DM10 range for the current year, and from DM18, to DM14 for 1997. The shares, ex dividend, fell a net DM35, or 13.3 per cent, to DM228.

There was a ripple in the Dax 30 as Linde fell DM10 to DM973. However, said Mr Muehleim, the forklift market leader was well diversified, whereas Jungheinrich had been less successful on that score.

PARIS worried that the surge in US home sales could prompt the FOMC to raise US interest rates. The CAC-40 index moved from strength to weakness, finishing 6.95 lower at 2,111.80 in turnover of FF4.43bn.

Dassault Aviation had second thoughts. Up 8.5 per cent on Monday ahead of the confirmation of the merger plan with Aerospatiale, the shares turned tail and fell FF764, or 7.4 per cent, to FF7804. However, Cap Gemini, selling its 36 per cent stake in Cisl, rose another FF6.50 to FF214 in 387,000 shares dealt for a two-day gain of 7 per cent.

Meanwhile, the drop in French car sales in June had

FT-SE Actuaries Share Indices

Table with columns for Index Name, Open, High, Low, Close, and % Change. Rows include FT-SE 100, FT-SE 250, FT-SE 350, and various international indices like Nikkei, DAX, and CAC-40.

THE EUROPEAN SERIES

Table with columns for Index Name, Open, High, Low, Close, and % Change. Rows include EURO STOXX 50, EURO STOXX 100, and EURO STOXX 200.

ASIA PACIFIC

Rate worries, finance house rumours depress Nikkei

Tokyo

Rumours that a non-bank finance company might go under, and mounting uncertainty over a possible shift in monetary policy, combined to depress sentiment, writes Erika Terazono in Tokyo.

The Nikkei 225 average fell 107.52 to 22,347.97, after moving between 22,289.90 and 22,485.23.

Investors remained wary over the course of US and Japanese interest rates ahead of a press conference by Mr Yasuo Matsuura, governor of the Bank of Japan, and the US FOMC meeting. The BoJ had changed its accommodative stance on the short-term money markets to neutral, following last week's decline in long-term yields.

Volume totalled 265m shares as most investors stayed on the sidelines. Investors were also unnerved by speculation that Dai-ichi Kangyo Bank (DKB) was about to suspend its financial assistance to Nichiei Finance, a non-bank money lender.

The Topix index of all first section stocks declined 8.78 to 1,699.43 and the Nikkei 300 by 1.93 to 315.03. Losers led gainers by 661 to 362, with 200 issues unchanged.

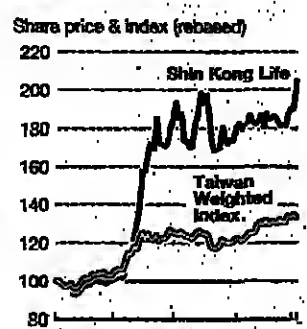
In London the FTSE-100/Nikkei 50 index rose 2.89 to 1,515.32.

Large-capital steels and shipbuilders lost ground. Nippon Steel shed Y3 to Y369, Kawasaki Steel Y10 to Y391 and Mitsui Engineering and Shipbuilding Y4 to Y331. Carmakers fell again, with Toyota Motor down Y40 to Y2,640 and Honda Motor off Y20 to Y2,820.

Nichiei, the real estate developer and parent of Nichiei Finance, plunged Y71 to Y441, although an official at the latter, down Y80 to Y175, said the rumours were groundless.

Financials were lower, with DKB down Y20 to Y2,000 and Fuji Bank losing Y30 to Y2,340. Brokers lost ground on profit-taking. Nomura Securities shedding Y10 to Y2,130 and

Shin Kong Life



Share price & index (rebased)

Source: FT Data

Nikko Securities Y30 to Y1,200. Kelsel Electric Railway, the most active issue of the day, gained Y30 to Y1,270 on buying by individual investors. The company is a leading shareholder of Oriental Land, which runs Tokyo Disneyland and is reported to be considering listing on the Tokyo stock exchange. Mitsu Fudosen, another shareholder in Oriental Land, put on Y30 to Y1,530.

Some speculative stocks weakened on profit-taking. Kanematsu, the trading company, dropped Y21 to Y764.

In Osaka, the OSE average dipped 104.10 to 23,625.31 in volume of 25.5m shares.

Roundup A solid afternoon rally lifted HONG KONG as expectations grew that US interest rates would not be increased at this week's FOMC meeting. The Hang Seng index rose 81.82 to 11,084.43, with turnover improving to HK\$3.5bn.

One analyst suggested overseas money had helped to bolster stocks. HSBC led the rally, climbing HK\$2 to HK\$120.

Bullish sentiment on Cheung Kong's infrastructure spin-off, which was priced at the high end of its projected range and was 25 times subscribed, helped the property developer rise HK\$1 to HK\$66.75.

Asian Resources tumbled 40

cents, or 16.3 per cent, to HK\$2.05 on news that Asean warrant holders had rejected a proposal by its parent company, Huey Tai International, to launch a rights issue. Huey Tai slipped 2 cents to HK\$1.28.

TAIPEI's financials led early gains, and stayed higher when the broad market went into reverse, leaving the weighted index 62.58 lower at 6,497.53 in heavy turnover of T\$82.64bn.

Profit-taking hit big industrials after last week's window dressing. Plastics fell most with a slide of 4.8 per cent.

Financials, which had lagged behind, resisted the pressure and rose by 0.6 per cent, with Shin Kong Life up by the daily 7 per cent limit. T\$8 higher at T\$127.

SYDNEY saw the stronger

analysts considering the potential effects of a price war in the market. Renault dipped FF140 to FF131.80 and Peugeot, with a recently stronger market share performance, by FF21, or 3.1 per cent, to FF7861.

Takeover speculation in the reinsurance market lifted Scor by another FF9.80 to FF215.80; UAP, which has 40 per cent of Scor, put on FF21 to FF103.80 in 444,000 shares.

MILAN gave up an early advance to close flat as domestic bonds eased and investors held back ahead of June inflation figures on Friday.

The Comit index picked up 0.43 to 687.10, while the real-time Mibtel index turned back from a high of 10,520 to end a point down at 10,453.

Montedison lost L8 to L851.7 on further worries over capital write-downs, but Eni climbed L108 to L7,900.

Olveti picked up L10.5 to L832.1 after Omnitel, in

Olveti is the major shareholder, said that it had 300,000 GSM mobile telephone subscribers at the end of June.

Tim, whose GSM subscribers at end-June climbed to 773,795, rose L36 to L3,493.

AMSTERDAM's AEX index finished 0.58 lower at 559.45, after 563.24. The brewer Heineken dropped F17.20 to F1372 after reports of a mildly bearish note from a big US broker.

BRUSSELS featured a new all-time closing high in Delhaize, the retailer, which closed BF560, or 3.1 per cent, higher at BF1,665 as the Bel-20 index rose 7.44 to 1,765.06.

The retailer's gain followed an overnight rise in its US unit Food Lion of 8% to 88%. Food Lion accounts for around three-quarters of Delhaize's group sales.

ATHENS gave back all of Monday's 1.4 per cent advance on a combination of losses by bank shares and some industri-

als and a sharp drop in the construction sector.

The general index dropped 13.34 to 909.50, but some analysts described the fall as unjustified. They noted that economic fundamentals were sound and said that any changes in economic policy introduced by Mr Costas Simitis, the prime minister, who consolidated his grip on the party machine at the weekend, were likely to be for the better.

WARSAW was weak, as investors awaited the results of today's Russian election. The Wig index fell 16.1 to 13,615.3 and analysts said that the result would be crucial to the market's direction in coming days.

MOSCOW, by its own recent standards, picked up only slightly as presidential aides sought to allay concerns about Mr Boris Yeltsin's illness, officially said to be a cold. However, the RTS-21 index closed 10.73, or 5.4 per cent, ahead at 209.36.

The Russian market will be closed today, a holiday for the presidential election run-off poll. Brokers yesterday were divided over the post-election prospect.

Written and edited by William Cochrane and Michael Morgan

Buenos Aires weaker

Buenos Aires edged lower at midsession on disappointment over June tax revenue figures and controversy surrounding Mr Domingo Cavallo, the economy minister. Analysts noted that Mr Ricardo Gutierrez, the treasury secretary, had conceded that the government was falling short of revenue goals set by the IMF.

Carlos Menem after an unexpected rise in unemployment, a defeat in Buenos Aires mayoral elections, and comments by the economy minister on corruption. The Merval index shed 0.84 to 603.91.

MEXICO CITY turned back after a firm start to trade and was weaker by midsession, with investors expecting higher interest rates at the auction of primary Cetes later in the day. The IPC index was down 2.24 points at 3,175.41.

S Africa regains confidence

Johannesburg moved confidently higher as gold shares defied a slumhering metal price and industrials were spurred by overnight gains on Wall Street.

The overall index rose 46.5 to 6,891.4, industrials added 53.8 to 6,190.5 and golds picked up 50.1 to 171.6.

Analysts said that the undertone was firm and that all indices could rise further in coming days, particularly the golds sector, expecting upbeat second-quarter results from the gold mining sector.

Among the most active gold

counters, Kloof Gold Mining appreciated R3.50 to R44.50, while Free State Consolidated Gold Mines collected R2 to close at R42.75.

De Beers, the diamond giant, was actively traded and finished 50 cents higher at R147.40 after a steady tug-of-war between buyers and sellers.

Anglo American Gold surged R18.50, or 4.9 per cent, to R396, while Rustenburg Platinum Holdings, parent company of the strike-bound Rustenburg Platinum Mines, edged up 50 cents to R68.

FT/S&P ACTUARIES WORLD INDICES

Large table showing FT/S&P Actuaries World Indices. Columns include Country, Index Name, and various performance metrics like % Change, High, Low, and Close. Rows list numerous countries and their respective stock indices.

CROATIAN RADIO-TELEVISION

Public Enterprise Zagreb, Dezmanova 10

Based upon Art.5 of the decree on the procedure of purchase of goods and services and concession of works (Narodne Novine" No. 25/96 and 32/96) public enterprise Hrvatska Radio-Televizija. 10000 Zagreb, Prisavlje 3 announces.

Public competition-Bid invitation for the collection of offers in order to choose the most satisfactory bidder for the purchase on credit of the following equipment:

- 1.1 Transportable containerized transmitter station, which consists of:
- FM-VHF II Transmitter output power 5 kw
- VHF II Combiner 3x5 kW
- TV VHF III Transmitter Output Power 5kW 1 unit
- TV UHF Transmitter Output Power 10kW 2 units
- UHF Channel Combiner 2 x 10 kW 1 unit
- Microwave Radio Link set for Transmission 1 TV and 4 Sound Channels including antenna systems 3 sets

Everything previously installed in transportable containers with the possibility of quick installation on the chosen location and attachment to the existing power supply and transmitting antenna systems.

- 1.2 Single TV and FM Transmitters:
- TV VHF III Transmitter Output Power 5kW
- TV UHF Transmitter Output Power 10kW 2 units
- TV UHF Transmitter Output Power 20kW 2 units
- TV UHF Transmitter Output Power 40kW 1 unit
- FM VHF II Transmitter Output Power 10kW 3 units
- FM VHF II Transmitter Output Power 2 kW 1 unit

1.3 Party of delivery is CIP with designation of the installation location, that is, warehouse in Zagreb.

2. Foreign and domestic bidders may participate in this public competition.

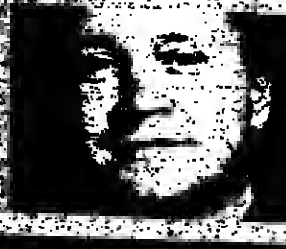
3. The tender offer has to be composed according to the tender documentation and is required to contain the credit terms as follows: at least, credit in the amount of the total price of the contract. For the period of 5 years with the grace period of one year and with the acceptable annual interest rate.

4. Tender documentation can be obtained, on a working day, in Hrvatska Radio-Televizija, 10000 Zagreb, Prisavlje 3, Commercial Dept.,

Croatian Radio-Television Commercial Dept. Export Import Zagreb, Prisavlje 3 CROATIA

Handwritten signature or stamp at the bottom of the page.

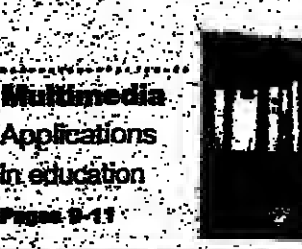




Focus: Networking interview with John Chambers

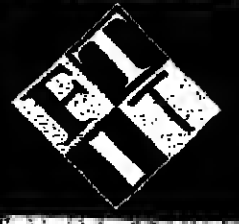


Directions: Advent of Crest Electronic securities settlement



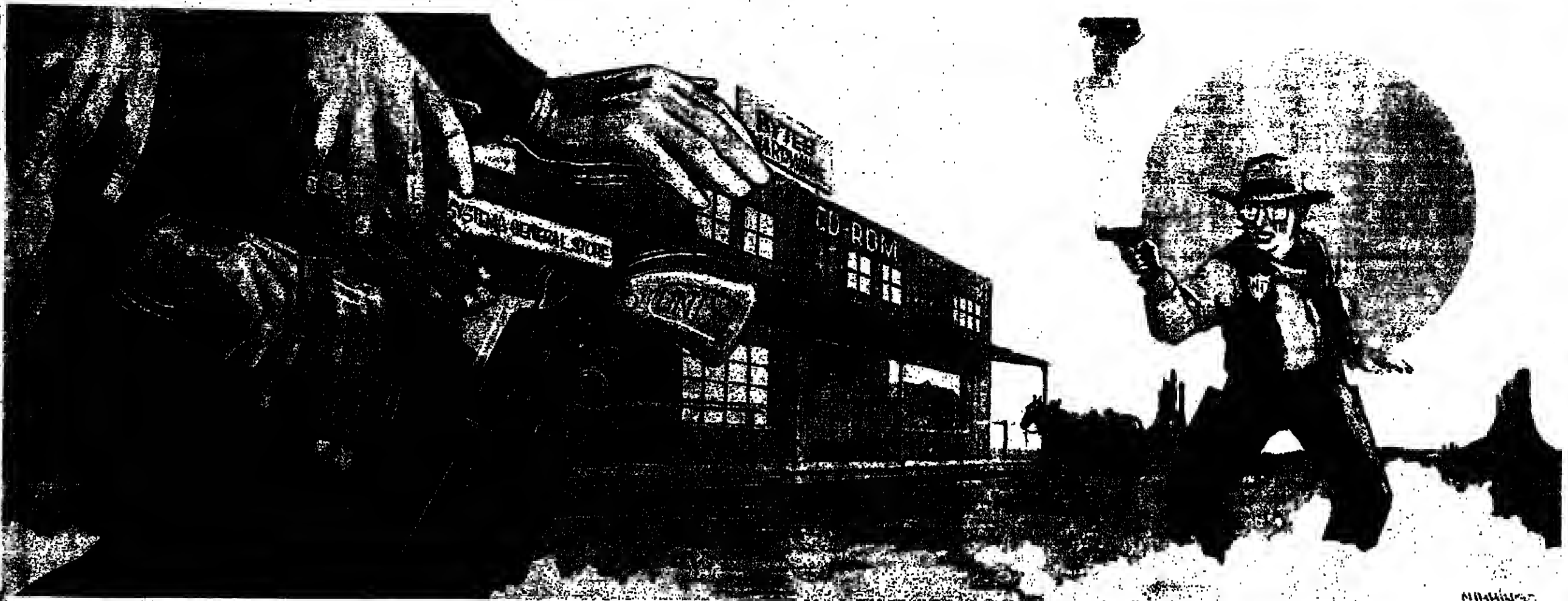
Perspectives: Martin Bangemann Pace-setter on the infobahn

Software at work: Internet software Rush for market dominance



# Information Technology

Wednesday July 3 1996



## Shoot-out ahead over control of corporate network systems

The next 18 months are likely to be crucial in the battle between Unix and Windows NT for control of corporate departmental network systems. For Microsoft, which has bet its future on NT, it will also be a decisive period, writes Paul Taylor

It's a classic showdown between an old hand and a young upstart. Nearly four years ago, Microsoft launched Windows NT (New Technology), a new "industrial-strength" computer operating system which the world's largest software company promised would change the face of corporate computing.

Now, after a slow start, a growing number of companies appear to be satisfied that NT is finally mature enough to be taken seriously as an alternative to their old-but-reliable Unix-based systems.

This alone represents a remarkable about-turn. Only a few years ago, NT was being written off as another unreliable and over-hyped failure. Now, as Microsoft prepares to launch the next version of NT, which boasts a Windows 95-style user interface, it is viewed as a viable solution, especially for departmental servers. Some bolder companies have begun evaluating its potential for enterprise or corporate-wide systems.

The initial uptake of NT was much slower than many analysts and industry pundits had expected. By last year, NT had secured only one per cent of the total operating system market, according to Dataquest figures.

Nevertheless, Microsoft professes to be pleased with NT's progress, particularly in financial institutions. At the important departmental server level, NT does now appear to be making big strides. The latest research figures from consultants IDC reveal that NT had seven per cent of the worldwide networking market, compared with 11 per cent for both Unix and IBM's OS/2, and 45 per cent for Novell Network, the market leader.

What is more, research groups such as Dataquest predict that NT will make further significant gains over the next few years. By the end of the decade, Dataquest is expecting NT to have secured more than 40 per cent of the operating system market.

Perhaps more significantly, hardware

vendors such as Digital Equipment predict that, by the year 2000, Unix and Windows NT will be level-pegging in the crucial server market - each accounting for about 40 per cent of server revenues, leaving the remaining 20 per cent to be shared out among so-called 'legacy systems'.

So what is driving the corporate IT world into Microsoft's arms? Aside from Microsoft's aggressive marketing campaign, there are a number of key factors working in NT's favour.

Among these, there has been growing disillusionment with Unix which, critics argue, has failed to deliver on its promise of ubiquitous open system computing and interoperability.

Indeed, Unix remains a collection of similar but not identical operating systems which, with very few exceptions, will run on only one computer platform. Thus, AIX runs on computers of various sizes, but all made by International Business Machines. Meanwhile, Hewlett-Packard, Sun and other hardware vendors back their own Unix variants.

"Unix missed the chance to come together," says Hasso Plattner, vice chairman of SAP, the German software group, echoing an increasingly widely held view.

What is more, moving Unix applications to new platforms involves not just recompilation but actual changes in 'source

code', raising the cost of developing new applications and after sales support.

In contrast, NT appears to be much better positioned than Unix to take advantage of standard off-the-shelf hardware and software, particularly machines based on Intel microprocessors. NT also runs on Digital's Alpha servers, those using Silicon Graphics MIPS chips and on IBM and Motorola PowerPCs.

As a result, although NT applications - which include all Windows 95 applications, since they are based on the same core technology - have to be recompiled for each hardware platform, they do not have to be rewritten, offering a big advantage in terms of cost and flexibility.

Microsoft has also built powerful alliances to support NT with hardware vendors, such as Digital, and software companies, such as SAP.

It has also encouraged software developers to use an extended list of development tools to build applications using NT. As Plattner of SAP notes: "Developers have switched to NT. Not everyone will like that, but it is true."

NT also makes it easier to integrate servers and desktop PCs with Microsoft's popular Office and Back-Office suites. For some buyers, picking Microsoft is a reassuringly safe bet because its dominance of the industry.

For business customers one of the most important factors will be cost of ownership and Windows NT scores in this area too. Not only are Windows NT based systems generally reckoned to be easier to set up and configure than their Unix rivals, they are also easier and cheaper to maintain.

"As Windows NT penetrates traditional Unix markets, support is becoming a key competitive weapon," notes Input, the UK-based market researchers.

"The complexity of Unix relative to Windows NT makes it more expensive to support. Additionally, there is a flourishing open NT support market which gives user organisations a wide choice of external support contracts."

**Competitors**

Meanwhile, the introduction of higher performance Alpha processors from Digital Equipment and faster Pentium processors from Intel have helped NT compete more effectively with the fast 'Unix boxes' sold by Sun Microsystems and other committed Unix vendors.

But NT is not the only server operating system that can take advantage of cost-effective Intel-based hardware. So, too, can Novell NetWare, IBM OS/2, and SCO Unix, which is already running on about two million x86-based servers - more than any

other version of Unix, according to SCO. "Obviously, there must be additional reasons why increasing numbers of MIS managers are choosing NT," said *Byte Magazine*, in a recent report.

One factor, say corporate users, is that it is easier to integrate Windows NT with their existing hardware and software. Companies which already have Windows PCs on their desktops naturally lean toward NT when they have to choose among server options. They would rather deal with a single OS vendor, and NT has an instantly familiar look and feel.

But despite NT's ascendancy, most independent analysts agree that Unix still has some key advantages which are likely to ensure that it not only survives, but thrives in some environments, particularly large-scale enterprise-wide and high performance systems.

In terms of performance, the low-priced PC-servers are limited by their internal architecture when they try to tackle the really big jobs. Even the best Intel-based servers have trouble keeping up with the fastest Unix machines, especially when managing large databases developed using database software from vendors such as Oracle, Sybase, or Informix.

As databases grow, the scaling ability and robustness of Windows NT are still big concerns for many large corporate cus-

tomers, which is why even those who have bought into Microsoft's NT strategy, still have some Unix boxes.

Despite Microsoft's claims, most independent consultants argue that NT still lacks the scalability of Unix systems - an advantage that Unix is likely to retain for some time. As a result, many companies are choosing to mix NT and Unix-based computer systems - and expanding their use of both platforms.

For small or medium-sized installations, typically departmental networks, they use Windows NT running on low-end servers containing four or fewer processors, but continue to deploy Unix servers where bigger systems are required.

"Windows NT is definitely gaining ground in corporate installations, but because the global computer market continues to expand at a prodigious rate, NT is not killing off Unix. On the contrary, Unix is likely to thrive into the next century," says *Byte*.

But as standardised Windows NT applications increase in variety, scope and quality, others argue that there is only one eventual outcome.

"There may be resentment of Microsoft within the computer industry and even among users," said a leader in the *Infospotives* journal in January, entitled "The Tragedy of Unix".

"But practical considerations will, in the end, determine the course of action businesses must take. If Unix software is substantially more costly than equivalent NT software, Unix software will not be as popular."

After all, the main reason Unix became successful was that it was cheaper for a software developer to reach a large market with a Unix program than with a program for a proprietary system.

"The Unix situation is nothing less than tragic," said *Infospotives*. "The bubble that led to AIX being different from HP-UX is now going to lead to the demise of the Unix hero."

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Interview with John Chambers

# Ahead of the pack on the information superhighway

"When you are growing at 90 per cent a year, I can tell you, your knees shake," says the president and chief executive of Cisco Systems. He is interviewed here by Louise Kehoe

John Chambers is at the wheel of the fastest race car on the information superhighway. The world's leading manufacturer of networking equipment, Cisco has supplied more than 80 per cent of the "routers" - data traffic directors - for Internet links worldwide. It is also in pole position as businesses build private "intranets" and as telephone companies rush to participate in the merger of voice and data communications. Yet another potentially huge market, networking equipment for the home, may be just around the corner.

"In this industry we measure life in 'dog years'. We cram seven years into every year... the pace is unbelievable," says Chambers.

Bringing new products to market at breakneck speed is critical. Learning, as a young company, to provide customer support and service in the style of a mature industry is also essential.

To create a broad product line quickly, the company has augmented in-house development with licensing agreements, partnerships and acquisitions. Over the past three years, Cisco has acquired ten smaller companies, culminating in the pending \$4bn purchase of StrataCom, the lead-

ing producer of switching equipment for high speed data networks.

Yet as data networks become part of the fabric of business operations as well as public services, there are advantages to having a single supplier for a full range of equipment, Cisco claims. "The products work seamlessly together and we can work with customers to create solutions that fit their needs," says Mr Chambers.

"Networking is of such strategic importance that customers lean in favour of a vendor that can provide a high level of service and support, and one that has international capability, as well as financial staying power."

Cisco's customers now view networking not only as a productivity tool, but critical to their competitiveness, he explains - "for some, it is a matter of survival". He adds: "We are just scratching the surface in terms of the amount of traffic going over the Internet."

Demand for network capacity will continue to increase, he predicts. "In inter-networking, everything has occurred much faster than we originally projected. Our customers tend to adopt our products at a much quicker pace than we expect. The same will be true

of broadband (network) requirements for businesses and also for the home.

"Very often, when people are projecting how much traffic there will be on a [new] highway, they base their figures on who is driving on the back roads today. But when you build the highway a lot of people use it who would not have travelled before. They use it as a way to get to areas that perhaps they would not have gone to before."

Similarly, he believes, demand for broadband services to the home will mushroom as soon as these networks are available. The key to opening this potentially huge new market is putting the technology in place at the right price, he says.

There must, however, be some "driver applications" that persuade telephone and cable companies to invest in upgrading their networks, he acknowledges. Interactive television trials have demonstrated that "video-on-demand is not the driver application, as people originally thought". But there will be other compelling applications, he believes.

These applications may be different for different parts of the population, he suggests. "For me, it was a combination of factors. I got frustrated with slow access to the Inter-



Chambers: 'New products come to market at breakneck speed'

net... and I wanted access to my presentations without having to drive to the office, and access to various news sources."

The initial users of broadband networks will be businesses and young professionals in their homes, he suggests. With more and more US colleges and universities providing students with access to high-speed networks in their dormitories, "we are now dealing with a whole generation of young professionals who appreciate how to use this technology and what it can do for them."

Several technologies including ISDN, ADSL and (television) cable networks will be part of the solution to making high speed data network access more widely available, Mr Chambers believes. "We have no religion when it comes to technology. We want to solve the problem and we think it will take a combination of technologies to do that."

Higher-speed access is not the only hurdle to better performance of the Internet, however, as many PC users who have upgraded their modems

from 14.4 kilobaud to the latest 28.8 kilobaud models are now discovering.

"People often sit in a traffic jam and wonder what the cause is: there can be lots of different reasons for a hold-up on the highway," Mr Chambers observes. Similarly, on the Internet there are many points at which data traffic can be held up.

"It may be the link to the service provider, but often a traffic jam can occur on the feeder highways, or at intersections." All the elements of the network need to be improved to assure the free flow of data traffic, he explains. "We will make products that allow the intersections to move faster, but we also need wider highways as well as software to balance the flow of traffic automatically."

There will be an increased focus on reliability of the Internet, he says. "What was an acceptable performance a year ago is not acceptable today - and next year will be something that you get thrown out for. Early users of the Internet tolerated a level of reliability that will not be acceptable in a year or two."

Enterprise computing • By Louise Kehoe

# Networks now vital to corporate effectiveness

Revenues for Internet-related products and services will rise from an estimated \$4.95bn in 1995 to more than \$36bn by the year 2000, analysts predict

When Sun Microsystems coined the phrase "the network is the computer" in the 1980s, it was largely an aspiration. Today, it is a truism that few in the information technology industry would question.

Networks - local, wide area and global - are defining a new model of information processing that reaches beyond the distributed or "client-server" approaches to allow any computer to link with another to swap data or programs.

In the business environment, networks are enabling employees to access information quickly, allowing them to make better informed decisions. Networks also enable collaboration among workgroups and are increasingly used to improve communications among suppliers and customers.

Companies now view networks not only as a productivity tool, but critical to their competitiveness, says John Chambers, chief executive of Cisco Systems, the leading data networking equipment supplier.

At the heart of this trend are the communications protocols and software standards of the Internet. From its genesis in the late 1960s, linking four computers at US Department of Defense sites in California and Nevada, the Internet has evolved into a global web of networks that anyone, almost anywhere in the world, with a personal computer and modem can tap into.

The Internet communications protocol, TCP/IP, has also become a *de facto* standard for private enterprise networks, or "intranets". It enables computers to communicate regardless of which operating system they are running.

Mosaic World Wide Web browser software, commercialised by Netscape Communications and now expected to become the standard user interface for office computers. This will enable users to locate information, whether it is stored on the hard disk of a personal computer or on a server in a remote country, in the same way.

"The Internet and the World Wide Web are triggering a transition to another period of extreme growth in the IT industry that may well dwarf that brought about by the personal computer (in the 1980s)," says Frank Gens, of IDC, a US market research group.

Among the early beneficiaries of this trend are suppliers of Internet hardware and software, data networking equipment and Internet access services. "We believe new businesses that are created by or for the Internet marketplace will grow very rapidly, at an

estimated compound annual growth rate of 38 per cent from now until the year 2000," say Mary Meeker and Chris DePuy of Morgan Stanley in *The Internet Report*, published earlier this year. Markets such as those for PCs, servers, semi-conductors and telecom services are also expected to see strong growth as a result of the Internet boom.

Among the biggest winners will be data networking equipment suppliers such as Cisco Systems, Bay Networks, 3Com, Ascend Communications and Cascade. This market has been growing at a rate of 60-70 per cent over the past year and is expected to maintain at least a 50 per cent growth rate over the next 12-18 months, according to analysts at Solomon Brothers.

Cisco Systems leads this group with an estimated 80 per cent share of the market for Internet "backbone routers" which direct data traffic on the Internet. The advent of high speed data communications technologies such as ATM and Frame Relay will create increased demand for network

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## The trend toward Internet and intranet computing is challenging established IT leaders

upgrades, further boosting sales of data networking equipment, analysts predict.

Security hardware and software represent another booming segment of the networking market. As companies link their internal networks to the outside world, security has become a serious concern. Firewalls, designed to prevent unwanted intruders, encryption software to protect the privacy of messages sent via the Internet and authentication software and services are becoming essential elements of enterprise networks.

Sales of Internet-related security equipment and software were an estimated \$200m last year and will blossom to \$1bn by the end of the decade, the Morgan Stanley analysts predict.

Internet access and service providers (ISPs) have been among the most visible early beneficiaries of the Internet "gold rush". New competition from large telephone companies such as AT&T and established online information services such as America Online is, however, challenging the pioneers of this segment of the networking industry.

Despite rising demand, an industry shakeout seems inevitable. Already in the US, for example, AT&T's entry into the market has forced several other ISPs to reduce prices. The market is also fragmenting as some ISPs focus on consumer services, while others are concentrating on high speed Internet access for businesses.

While the trend toward Internet and intranet computing is creating new opportunities, it is also challenging established IT leaders. In the browser software market, for example, Netscape Communications and Microsoft are engaged in an

estimated compound annual growth rate of 38 per cent from now until the year 2000," say Mary Meeker and Chris DePuy of Morgan Stanley in *The Internet Report*, published earlier this year. Markets such as those for PCs, servers, semi-conductors and telecom services are also expected to see strong growth as a result of the Internet boom.

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### FT Review of Information Technology



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Picture research: Matthew Glynn, Ludo Hunter-Tilney

Themes in this issue:  
Main Focus: Networking  
IT Directions: Multimedia in Entertainment and Education; special feature on Crest, the electronic securities settlement system.  
Software: Internet software tools.

The next issue September 4:  
There is no review in August; the main themes for September will include:  
Focus on Computers in Finance.  
IT Directions: Systems Support and Security.  
Software: Accounting Packages.

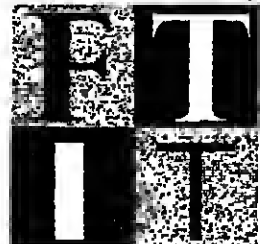
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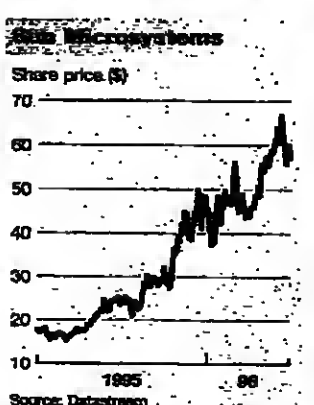
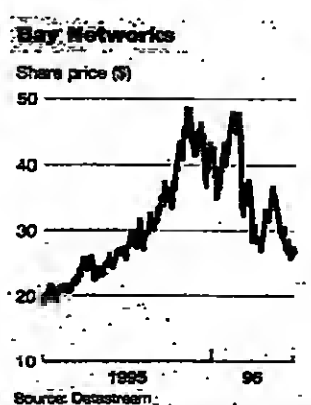
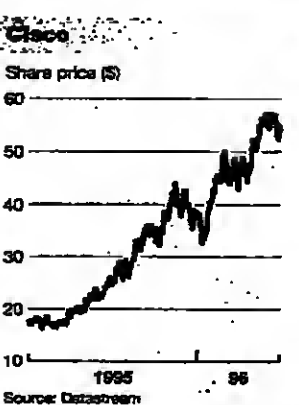
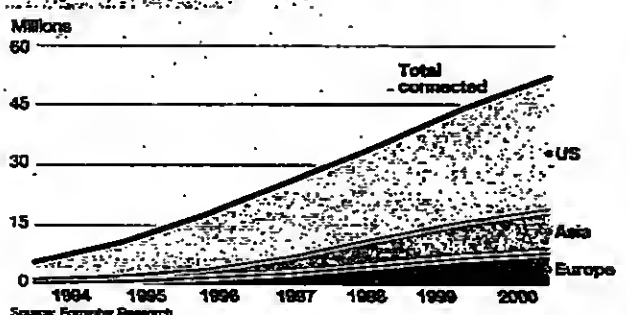
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Networking

Equipment personal computer 'servers' • By Geoffrey Wheelwright

# Suppliers race to build alliances

Key players in the market for up-market personal computer 'servers' are working hard to outdo one another in building industry alliances that will give an edge to their range of products

Unlike the desktop computer market, where the specifications of one product in a given category are much like any other, there are real differences in the design of - and standards used by - PC servers designed to store large amounts of data for use over computer networks. These differences can range from the kinds of network software supported and the back-up options offered to the way in which multiple processor capabilities - which can significantly enhance server performance by allowing a single server to use more than one computer processor - are implemented.

IBM, for example, announced in June the launch of "the IBM PC Server Compatibility Program" - described as "a set of co-operative relationships between IBM and selected providers of PC hardware options and applications".

The goal of the program is to test compatibility of other vendors' products with IBM PC Servers. Initial program participants include 3COM, Intel, Madsen Networks, Mylar/Buslogic, Olicom and Standard Microsystems Corporation (SMC). Meanwhile, archival Compaq Computer teamed up with Intel, the leading computer chip-maker, to unveil an effort it is calling "Pacesetter '96" to conduct software integration and optimisation testing on Compaq's ProLiant 5000 systems, using Intel Pentium Pro processors.

In addition to testing and integrating their software on the new ProLiant platform, Compaq says "Pacesetter '96" participants are preparing evaluation reports to assist customers migrating or installing business-critical applications on the new ProLiant 5000. The company says these evaluation reports will help customers worldwide obtain optimum performance, reliability and scalability for their business-critical computing applications.

"Compaq, Intel and their partners have jointly conducted months of comprehensive testing to deliver the industry's most-tightly inte-

grated, optimised, reliable and powerful solutions for business-critical applications," claims Gary Stimac, the senior vice president and general manager of Compaq Systems Division. "Whether the application is for the Internet or an Intranet, transaction-processing or decision-support, with Pacesetter '96 Compaq has ensured that customers can immediately deploy enterprise-class applications on the ProLiant 5000 and Pentium Pro technology."

Intel, of course, is equally trying to get customers for server systems to demand use of its top-end Pentium Pro processors.

"Intel worked with Compaq on the Pacesetter '96 programme to give customers the best possible performance on Pentium Pro processor-based ProLiant systems running the enterprise solutions of these leading software companies," enthuses Dave House, senior vice president and general manager of Intel's enterprise

server group. "We've accomplished this by providing these leading enterprise application vendors with early access to ProLiant 5000 systems to ensure their products are fully tested, optimised and integrated for the new SMP Pentium Pro processor-based systems."

## Intel and Compaq are working on the 'Pacesetter 96' project

Participants in the Pacesetter '96 program include Andersen Consulting, Arbor Software, Autodesk, Baan, BMC Software, Comptar Associates, FileNet, Informix Software, ISCOR, Lotus Development, Microsoft, Novell, Open Text, Oracle, Price Waterhouse, LLP, SAP America, SHL, Sybase and ViewStar.

Hardware developments • By Tom Foremeki

# More flexible routes for network growth

## Stackable hubs allow network equipment and users to be added without disrupting the whole system

As networks become more important to businesses, companies that provide networking equipment - such as hubs, routers, switches and bridges - are trying to make it simpler and less expensive to set up and manage networks, especially for smaller offices.

One important trend is in stackable hubs. These hubs connect local area networks (Lans) and act as the connection between Lans. They need to be fairly formidable pieces of equipment, requiring a reasonable amount of expertise to set up and manage. But this is rapidly changing as companies

bring out stackable hubs. These can be as simple to use as plugging in wires and running installation software.

Stackable hubs are a cross between the more complex and larger chassis-based hubs and simpler stand-alone hubs, with some of the best features of both. Stackable hubs are available for all types of network such as Ethernet or Token Ring. They have a small footprint, which makes them ideal for smaller organisations and offices. And they can be combined to grow with a company and allow users easily to expand their networks.

As their name implies, stackable hubs can be stacked on top of each other as the need arises. They are also easier to manage: a stackable hub might cost about \$45 a user compared with the less versatile but cheaper stand-alone hubs at about £20 a user, but much less

than a chassis-based hub, which is designed for larger numbers of users and may cost as much as £100 a user.

Improvements in network management software mean that users can add stackable hubs and manage them as a single entity, able to spot problems before they arise, and make it easier to configure the network for new users.

### Vendors

Stackable hubs are available from several vendors with some of the more popular products coming from companies such as 3Com, Hewlett-Packard, Bay Networks, Standard Microsystems and Digital Equipment Corporation.

3Com is a pioneer in providing stackable hubs and it plans to launch a new generation of its SuperStack stackable hubs in August. These hubs will

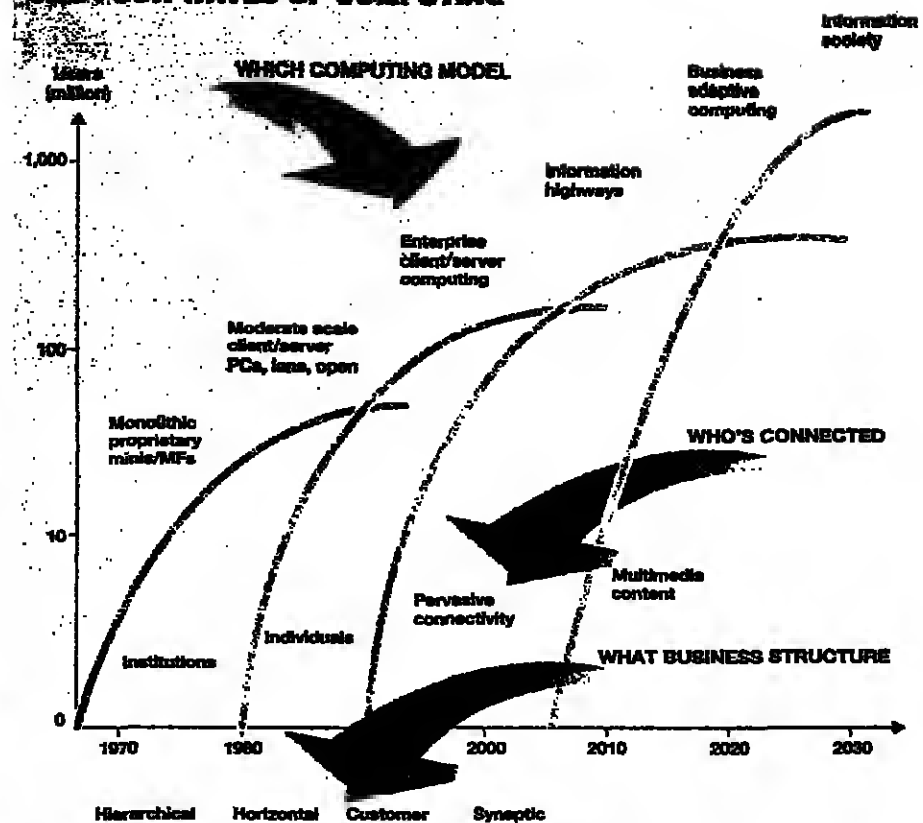
have several new features, including electronic port switching for adding users.

The company is confident that port switching will be a popular feature, especially among customers that have to add or remove large numbers of users on a regular basis.

"One of our customers is a large petroleum company and every year about 75 per cent of its headquarters staff move as it hires in people for training. We will be the first with port switching at a breakthrough price, which will make it easier to add users to the network and also save on staff costs in terms of managing and maintaining the network," says Edgar Masri, vice-president and general manager at 3Com's premises distribution division.

Other new features will make the hub more robust by including a hot-swap capability that allows users to add net-

## THE FOUR WAVES OF COMPUTING



The third wave of computing is where most corporations are today

## Evolution of computing

Since the beginning of professional computing there have been three distinct waves of building computer systems - these have been 'waves' of computing which began with mainframes alongside dumb terminals; the second wave was the mini-computer.

The third and current wave is typified by PC-based networks, connected through centralised data repositories.

In a new guide called 'Intranet Essentials', Soo Microsystems says the next wave of computing is the Intranet, defined as 'deploying Internet technology inside an organisation'. An Intranet needs no link to the global Internet. Much of the technology that allows organisations to build Intranets is rooted in the Net and the World Wide Web. Recent estimates suggest there could be 500m Internet users by the year 2000, compared with 60m today.

"Email details: Matt Reid@uk.sun.com"

announcement will enable customers to select and integrate best-of-breed technologies that will deliver the performance and quality of service essential to next-generation applications," said Andy Ludwick, president and chief executive of Bay Networks.

"As networks become more complex, customers face increasingly difficult issues related to standards and compatibility," said Nick Lippis, president of Strategic Networks Consulting.

"This announcement provides a forum for addressing these inter-operability challenges and is a welcome move for the industry."

### Standards

3Com recently joined with IBM and Bay Networks to announce a common set of standards and specifications that will make it possible for users to mix and match network equipment from different vendors without compatibility problems. The common specifications cover routers, hubs, inter-networking and ATM (or asynchronous transfer mode) technology for building very fast networks.

"This inter-operability

Continued on next page

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The financial sector is the largest user of advanced business networks. Support services can account for about 35 per cent of IT spending, according to analysts at Dataquest. Many companies spend more than 50 per cent of their IT budget on external and internal support services

Managing the network • By Tom Foremski

# Support services do not come cheaply

Planning for a network failure is an important task which some companies fail to carry out adequately. There is also a need to measure the true effectiveness of company help-desks

To make the best use of a network, companies must make sure that they can support their users through help-desks and have the necessary staff and tools to help manage the network. As companies grow in size, their networks become increasingly complicated as new users are added, other users leave the company, and as the capacity of the network is upgraded with new equipment from multiple vendors. And there is the issue of emergency planning in the event of a network failure which could bring a company's business to its knees if the network cannot be restored quickly enough.

Help-desks are a key component of a business network. Users typically have various levels of computer expertise and even the best-trained staff often need to talk with an in-house expert to solve the inevitable problems that arise. But support services are a big expense for companies. US market research firm Dataquest, says support services account for about 35 per cent of IT spending and that many companies spend more than 50 per cent of their IT budget on external and internal support services.

"What we see with clients is that as network activity increases, activity related to help-desks also increases, but help-desks can often be overlooked as a key factor," says Don Cleavinger, chief technologist for the information services and communications group at EDS. Cleavinger says

that EDS offers help-desk services for clients and has developed a methodology that makes them more effective. "We have seen many mistakes, such as when there is a system upgrade, the help-desk people are sometimes not informed of the changes and so they can't help users with their problems. There is also a necessity to set up metrics to measure the effectiveness of the help-desk, otherwise you cannot judge how useful the help-desk is to the organisation," says Cleavinger.

The popularity of the Internet has led to new approaches to help-desks which take advantage of different time zones. Asta International is offering client/server software for setting up world wide web sites that will route calls from users to a help desk. If an end-user in London, for example, has a problem in the middle of the night, their call for help can be routed to a help desk in Australia where there are staff on hand.

World wide web sites are also useful in collecting information on fixes to common problems. Before talking with a help-desk expert, users can check a web site for information on solving their problem. Again, this is useful when help is required outside of help-desk office hours.

Problems in the network itself are another category which affects users, but is usually related to a hardware failure somewhere on the network. Fortunately, spotting hardware problems has

become much easier with remote diagnostics software which can spot potential problems and locate where failures have occurred. In the past, it used to be a big task pinpointing where the hardware failure was, a task that became more complicated as a network grew.

These days, most of the components in a network have chips which identify themselves to the network management software and relay information about their current status.

Planning for a network failure is an important task which some companies fail to carry out adequately, says Kevin Bishop, European and Middle East marketing manager at IBM Networking Products.

"The order in which you bring up a network after there has been a failure is important," says Bishop. "In some companies, the accounting department will say 'bring us up first, because we need to send out invoices or bills', but this is usually wrong. You can always catch up with the accounts and send out bills a couple of days late, but if the network serving your sales staff goes down, then you don't have any way of generating new sales because there is no way of catching up with lost customers."

Bishop says that IBM will perform an audit of a company's network to determine which parts are essential to the business and to put together a plan of recovery in the event of a network failure and recommend the best strategy for performing back-ups.

IBM also helps companies with the network infrastructure, where to place equipment and take other measures to

ensure a 24-hour, seven-day operation. Staff are led through practice crisis trials so that when a big problem arises, the steps to be taken are more familiar and executed more rapidly.

There are trends in remote diagnostics software that make it easier to put together networks with a mixture of hardware and software from different vendors and have a single management system. Previously, network management software was specific to each vendor's networks, but now there are more industry standards and moves to improve things further.

For example, IBM, 3Com and Bay Networks recently said that they would co-operate on developing common specifications that will make it easier to combine and manage their respective network products within one heterogeneous network.

Although the alliance is partly aimed at allowing the companies to better compete with network market leader Cisco Systems which has its own proprietary network management software, the move should help the end-user as the industry moves to adopt standard specifications.

To be able to mix-and-match network equipment is a step forward and it will help to reduce the cost of installing and maintaining networks. Customers will be able to buy equipment based on features and price rather than being tied into one vendor because of possible compatibility problems.

While installing and managing networks is a high priority for companies, the cost is certain to be offset by the rewards of more efficient use of IT resources and better staff productivity.

Lans, IDC estimates that the LAN switch market grew from \$350m in 1994 to \$1.5bn in 1995. "Customers are clearly adopting large numbers of LAN switches to ease workgroup and backbone congestion," says Lee Doyle, analyst at IDC.

**Router sales**

Although high-speed switches represent strong growth in the local area network market, routers still hold a dominant position, growing in 1995 by 43 per cent to a \$3.7bn market and by 71 per cent in terms of unit sales.

Although switches are taking on the role of routers in acting as intermediaries between the backbone and the LAN, routers are in no danger of becoming obsolete.

Switches can be cheaper and easier to use than routers but router vendors report that customers are still buying routers but using them in different parts of the network in a complementary way.

# Network skills shortage

Demand will remain high at least until the end of the century, say researchers

Networking is now the area of greatest skills shortages - and is being made worse by the fact that technical knowledge alone is no longer enough.

That is the view of an industry already short of skills in different areas yet generally unwilling to train people for networking or offer them the right career path.

In the UK, skills and problem diagnosis tied as by far the biggest management issues in a new survey on local area networking by research firm Spikes Cavell for UB Networks.

In addition, almost 80 per cent of companies have had or are currently experiencing network skills shortages, according to recent research by recruitment group Delphi, again far more than those with staffing problems in other IT areas.

Demand for Novell networking skills grew by 47 per cent to more than 7,500 vacancies in the 12 months to March and by 11 per cent in the first quarter of 1996 alone, according to a quarterly survey of job advertisements by research firm SSP for trade journal *Computer Weekly*. There was similar growth in demand for Internet TCP/IP experience, while general local area network skills saw 22 per cent growth in the number of vacancies. Microsoft Windows NT came into the top 20 for the first time at number 11, with 45 per cent growth in the first quarter of 1996 alone, or 6,389 vacancies over the 12 months. These findings are reflected in the fact that Novell, Windows NT and TCP/IP are now the top three courses in demand at the UK's biggest IT training company, ICL's Peritas subsidiary.

Networking skills will be in high demand at least until the end of the century," says Organisation and Technology Research (OTR). "It will be fuelled by large sustainable growth in the client-server market, growth in network products and services, underlying demand for jobs based on networked and distributed systems, the increasing power of supplier companies which aim their products at individuals and the desk-top, and commercial and political pressures concerning the so-called information highway."

OTR sees the number of organisations adopting client-server systems increasing from around 20 per cent to 70 per cent by 2000. Such statistics beg the question of where the people needed to fill the vacancies will come from.

Back-room technical jobs, typically designing, monitoring and running wide area networks linking scattered offices, offer new opportunities to traditional mainframe systems programmers, the highly technical specialists who know the inner workings of operating systems, according to Mr Clive South, a manager at recruitment group Software Personnel. These people saw only slow growth in demand for their skills in the early 1990s as companies switched to client-server set-ups.

However, most network activity is around the office, and IT people working here need another vital skill alongside their technical knowledge.

"The market needs people with technical experience but also the ability to talk to end-users," Mr South says.

"Users are naturally inquisitive if someone brings in a new workstation or adds networking to their PC. You can't blind them with science; you have to be able to explain the benefits and what the system does without going into bits and bytes."

People coming out of higher education or from schemes to develop Modern Apprentices and others with the higher levels of National Vocational Qualifications are a source of skills here.

"Graduates these days are taught networking and personal computing and are increasingly also getting the necessary inter-personal skills," Mr South says.

Mr Paul Butler, a director of Peritas, says most of the people going through the Novell, Windows NT and TCP/IP courses are IT specialists being reskilled. Peritas offers both traditional classroom courses and online training combining self-study and discussion over the Internet, and Mr Butler says "a high percentage" of on-line students are paying for their own training.

Strangely, however, after all the training, these different groups of people can find themselves facing a career dead-end, with the result that they leave, taking their skills with them.

This is because they often end-up on the help-desk. This can be frustrating both to new graduates keen to develop a

career, and to analyst-programmers who have gone for retraining after years of main-frame experience.

"It's a real problem," Mr Butler says. "The help-desk is supporting IT infrastructures, especially networking, yet it is seen as a dead-end, typically consisting of a supervisor and lot of people on phones. It has usually been regarded by companies as a necessary evil, located in a spare room near the IT department - and not taken seriously. Users often see it as no more than a barrier which has been erected to block their access to the IT department."

"There is a need to raise the professionalism and esteem of the help-desk, to give it credibility, both among users and as a career path. The staff need to be trained to handle calls professionally, to log problems and then monitor trends and establish an on-line knowledge base of common problems."

Mr Butler is optimistic about the future of the help-desk and therefore about its role in nurturing and retaining networking skills. Peritas help-desk courses are now seeing the third biggest growth in demand, after Windows NT and TCP/IP, and all these courses are "quickly booked solid".

"A year ago the typical help-desk salary was £11,000-£15,000, but far-sighted companies are now increasing the maximum to £17,000-£19,000," Mr Butler says. "In these companies, junior IT staff and those with some experience now see the help-desk as a good career move and a place to get good initial experience in IT products and problems."

□ The Invisible Lan, by Spikes Cavell: 01635 550449; Delphi Group: 0171-440 2000; Peritas: 01753 888181; 0171-402 3574; Software Personnel: 01203 690956. Callers outside the UK delete initial zero and add international access code +44.

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# Vendors target small office market

Continued from previous page

audio files. They will also help to ease congestion on networks.

Network equipment vendors are also looking at new markets, such as the rapidly growing small office and home office market, with products specifically designed for them.

Cisco Systems recently introduced a modernised Ethernet-to-ISDN router that can replace multiple telephone lines by allowing several office

machines such as personal computers, telephones and fax machines to share one ISDN connection. Cisco says that the Cisco 765 and 766 routers are designed for small offices and telecommuters.

International Data Corporation (IDC), the market research company, predicts continued strong growth in the local area network (LAN) market, especially for switches, which are increasingly competing with routers as companies try to enhance the efficiency of their

LANs. IDC estimates that the LAN switch market grew from \$350m in 1994 to \$1.5bn in 1995. "Customers are clearly adopting large numbers of LAN switches to ease workgroup and backbone congestion," says Lee Doyle, analyst at IDC.

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# Still in search of the missing link

As the number of remote network users grows, companies are seeking new ways to connect different technologies

Connectivity is defined by the *Computer and Internet Dictionary* - published in the US by Que - as "the extent to which a given computer or program can function in a network setting".

This points to one of the industry's biggest challenges, with which it has been struggling for more than a decade and which is not fully resolved. The problem is how to connect computers in a network setting requires both compatibility of hardware and software and inter-operability of complete systems, enabling people and machines to communicate.

In spite of efforts by official and unofficial standards bodies, boosting connectivity continues to demand considerable attention from suppliers and users.

It means grappling with several different technologies, from local area network (LAN) equipment such as gateways, servers and routers through various types of communications software to applications such as email, groupware and electronic commerce.

System managers still have a maze of LAN specifications to negotiate. The announcement by Bay Networks, IBM and 3Com that they will form an "inter-operability alliance" to create common specifications could help bring order to the market, although at the outset the deal excluded Cisco, their chief competitor.

The connectivity challenge has become increasingly complex as more and more computer users work outside their company's main offices. Many employers have formed a policy of requiring staff to work at least some of the time from other places. These people need access to their corporate networks from remote branch offices, home offices, customer

sites, vehicles or hotels.

There is another, similar set of problems associated with users accessing information from systems belonging to different organisations, such as the Internet and other online databases.

"The users of mobile computing are becoming more diverse, from fire engine crews to financial consultants. Some companies now have several thousand staff with remote access to their networks.

Supporting such a mass of

Speed and security are crucial issues for systems managers

remote users is both a difficult management task and potentially very expensive.

Mobile workers have often acquired their own modems, creating problems for the systems manager, who has no control of the hardware or the costs of its usage. Such costs mainly relate to telephone charges, especially if leased lines are involved, and to network support.

About 80 per cent of the cost of remote access relates to telephone call charges and only 20 per cent to equipment, according to Phil Crocker, a director

of marketing for Shiva, a remote access product vendor. He emphasises the need to manage telecommunications cost-effectively.

A principal cause of high telephone call costs is that the IPX and SPX protocols used by most LANs based on Novell's NetWare were not designed to minimise call time.

The latest remote access software can have timers included to ensure that the use of telephone lines is optimised, network messages are minimised and routine updates are sent at off-peak periods.

Another cause of high costs is the tendency of users to make calls to suit themselves without thinking of the financial consequences.

"If mobile users call the Internet directly, costs will rocket," warns Crocker. "It is usually better for them to dial in to the corporate LAN and get a connection from there."

Network support costs are almost equally critical. "They could cripple a company," says Crocker. Ease-of-use is therefore a primary criterion in the design of remote access products.

The spread of ISDN (integrated services digital network), the international public digital network, has made data communications between many remote sites feasible and brought huge demand for remote access products and services.

Speed and security are the most important issues for systems managers who are seeking to provide remote access to their users, according to John Birbeck, managing director of the remote access division of manufacturer Bay Networks (formerly Kylogics).

Users are starting to move from dial-up modems and leased lines, which are expensive solutions, to personal ISDN routers running at 64Kbit/s, he says.

These systems give users bandwidth-on-demand, that is the right amount of capacity for the often relatively short periods when it is needed.

ISDN routers are often being chosen because remote access to a network and retrieval of data by modem or by ISDN terminal adapters fitted into a PC have proved too slow, especially for uses such as the transfer of complex graphics.

Perishing, the financial services company, has been replacing modems and leased lines with ISDN routers for the past two years. Paul O'Sullivan, communications manager, says routers are much more cost-effective and easier to support. He hopes they will be installed at all 60 sites on his network by next year.

Many organisations have reached remote access speeds of about 64Kbit/s, but want 128Kbit/s to deliver a more satisfactory service to their net

Continued on facing page

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■ Multimedia networking • By Phil Menchester

# Many hurdles to overcome

### Data compression and ISDN links are improving the delivery of audio and video links over networks

The first wave of excitement about networked multimedia and its potential for new applications is being replaced by a more pragmatic view. Expectations have been lowered - partly because of increased exposure to the limitations of multimedia technology on the Internet and partly because pilot trials have not lived up to their early promise.

There are several reasons for this. The standard telephone network is far too slow for video and audio, both of which depend on time synchronisation. The alternative - the integrated services digital network (ISDN) - is still relatively expensive to install and maintain. And the software technology required to provide multimedia services is complex.

This is expected to change. The cost of ISDN connections is falling. Professional services companies are starting to offer both the software technology to handle multimedia content over networks and the support services to deliver it.

The growth of ISDN is crucial to the development of networked multimedia. The increased bandwidth of ISDN enables, for example, the possibility of reasonable quality digital video transmission across networks. This will make videoconferencing - and other multimedia services - viable.

Ernie Radwick, director of the entertainment operations group at EDS, the US software company, has high hopes for videoconferencing over the Internet. "It is definitely one of the hot applications of the future," he says. "At the moment, the limitation is on the bandwidth of the network. But, as the bandwidth increases, we will see videoconferencing coming into its own."

EDS uses multimedia networking internally for distance learning. This allows it to cut training costs by broadcasting lectures over the network. Students can interact with the lecturer through a keypad.

Although it says this has proved successful, EDS sees a big gap between this and full networked multimedia services. Further improvements in telecoms infrastructure are essential.

There are still heavy limitations on the availability of the network and there is a major investment needed in many

countries to switch from analogue to digital communications," says Hartmut Goetz, managing director of EDS Germany.

He sees other problems with developing networked multimedia services: "There are issues over censorship, intellectual property rights, cross-border flow of information and billing."

"At the moment, there is no regulation on the Internet and no clear way that multimedia services will develop," Goetz adds.

Some companies are taking the bull by the horns and building services on the emerging ISDN structure at the same time as offering Internet services. The Signpost Multimedia Library, based in London, offers companies access to a broad range of multimedia clips - from high-resolution 'stock photography' to audio and video clips. It uses a range of ISDN services, including the Internet ISDN.

Richard Johnson, managing director of Signpost, says this was because he saw the need to provide a 'global' service

from the start. He also thinks that the high profile of Internet-based communications has helped promote the advantages of online media: "Since we started Signpost we have seen that the online stuff has become less of a mystery and the Internet has helped."

"Although it is still a bit shaky when it comes to delivering good multimedia products, a lot of people have gone online and got a taste for the sort of thing they can get."

However, Graham Poulter, chairman of On Demand Information (ODI), a networked multimedia specialist, is sceptical about using Internet-based communications for graphics and video transmission at the moment. "Video on the Internet is really not at all viable. People have been carried away by the hype and I think it is likely there will be a backlash."

"I suppose it will come one day - but the serious questions that need to be asked are when and how good the quality will be."

Installing an ISDN service is one way forward, Poulter says. Companies can install basic

ISDN processing for a lower cost than they might think: "At the simplest you can put in a basic system for about £1,200 now. This would include £400 for the ISDN connection and about £780-£800 for an adapter board for a PC or a Macintosh."

ISDN lines come in two forms. The basic ISDN-2 service offers two channels, and the more expensive ISDN-30 offers 30 channels. ISDN channels can be combined to improve the throughput and further reduce costs.

"You can aggregate the channels so you can push stuff through much faster. This is called bandwidth on demand and means you can pick up as many channels up to 30 as you need. With video, for example, it might be faster and less expensive to use all of them," Poulter explains.

In addition to improving transmission speeds by using ISDN, graphics and video can be moved about more efficiently using data compression. There are well-established standards for data compression - JPEG for 'still



Transatlantic discussions: This PictureTel videoconference system allows business users to show documents, slides and make multimedia presentations

images and MPEG for moving images (video).

Until recently data compression was restricted to hardware - meaning you needed a special adapter board in the workstation to decode images and display them. But recent products also allow software decoding - reducing the cost significantly. Moves to upgrade data compression standards promise to improve performance even further.

"MPEG 4 is coming soon and that will push performance up. We also recommend dedicating a server computer to compression and decompression. You can send the data across a local area network and free up the workstation to do other work," says Poulter.

Advances such as this will help bring multimedia to the desktop at a reasonable cost and, when combined with faster, higher capacity networks, open the door to multimedia services.

It will be some time before full business-oriented multimedia servers such as videoconferencing become viable through standard Internet connections. But the network technology is advancing quickly and pioneering companies such as Signpost and ODI are building the foundation for the multimedia services of the future.

Internet software tools: see report, page 15

■ Connectivity

## European variations

Continued from previous page

work users. People who bought modems three years ago to achieve 28Kbit/s are now upgrading to routers with the aim of reaching 128Kbit/s.

The faster speed should be sufficient to cope with most voice, data and video applications currently available, but users will probably find other applications in the future which will make even higher demands on the technology.

Users working in places where ISDN services are not available are likely to feel increasingly disadvantaged. Germany and France are well advanced in the adoption of

ISDN, but the UK has not moved as fast, and services in other European countries vary greatly.

The security of remote access depends on good management and the adoption of suitable products, particularly firewalls.

A new specification called Radius (remote access dial-in user security), being developed by the Internet Engineering Task Force, may create an open standard for remote access products. This would allow users to achieve a minimum level of security at a lower price, irrespective of which manufacturer they buy.

■ Planning a global network • By Marcia MacLeod

# A complex route to customised solutions

Knowledge of variables in taxation, equipment imports and legal requirements in each country are among important issues

Installing a global network is becoming an increasingly attractive option for multinationals: not only is every office in every country linked together, but every office has the same software, with screens that look the same thanks to an identical graphical user-interface (GUI). And any executive relocated to or visiting a different site can access the company's system.

But buying such a network is not easy: before the network is purchased, the company has to decide which equipment will be most suitable for all purposes and in all countries.

It also has to decide a number of variables, such as what version of a packaged software product should be used and what language it should be in.

If English is not understood throughout the organisation, someone has to ensure the correct language is used for keyboards, software and manuals - but if it is produced for Shanghai in Chinese, which do we need for English-speaking bosses?

There are service providers who claim to be able to take care of the total supply and installation of a global network. Few can do so without sub-contracting most services.

International Telecommunications Services (ITS) is one, thanks partly to its parent company, the SITA group, which runs a global telecoms network for airlines, and partly to its extensive network of offices in 220 countries. ITS can supply a customer's

worldwide computer solutions - from main server machine and PC workstations to network technology, cabling, and software. ITS will buy what it does not make, through partnership agreements with a number of suppliers, such as IBM, Lotus, Cisco (a network router vendor) and Isocor (an X.400 specialist), or incorporate equipment supplied by the customer.

### Pre-sales advice

But the real benefits of using a company such as ITS is the knowledge of global computer and telecommunications requirements: the service starts with pre-sales advice from one of the company's larger offices in Maidenhead,

Amsterdam, Paris, Frankfurt, New York, Singapore and soon, Switzerland and Italy.

"We use the pre-sales phase to work out all the parameters before the sale," says Christian Fournier, administration and finance director, "so we can advise clients on the way we will customise their solution."

"Does the customer understand, for example, that it is not possible to have a completely identical system throughout the world, due to restrictions on imports in some countries? Korea, for instance, protects its computer industry by forbidding the import of IT equipment if similar kit can be bought locally."

VAT recovery can be a big part of an ITS contract. Most countries impose VAT, one

notable exception being the US. But VAT can usually only be recovered locally. If a customer insists on all invoicing being done centrally, VAT will not be recoverable in any country except that where headquarters is based. If ITS can arrange for each local office to be invoiced, then that local office will be able to reclaim VAT from its government. The difference can account for up to 25 per cent of the cost of a contract.

Knowing the duty variances in each country is also important. "If telecons equipment is imported into the US, for example, duty could be 5 to 7.5 per cent higher than for computer equipment," Fournier explains, "so, if possible, we send equipment as computers

rather than telecoms."

Legal requirements and other legislation, such as health and safety laws, must also be taken into account.

ITS ensures all of these factors are covered through one of its 22 project managers and its PDK (Project Delivery Kit), which sets out what has to be done, and how, in and for each country.

One project manager is assigned to a customer to facilitate provision and delivery of equipment worldwide, pulling everything together in the same way that a conductor manages an orchestra. The project manager, in turn, relies on regional project managers to deal with local requirements

Continued on next page

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■ Interview with Robert Madge • By Paul Taylor

# An unlikely entrepreneur

With the surge of interest in networking, the Madge group has been growing at an average of almost 80 per cent a year

**R**obert Madge, founder, chairman and chief executive of Madge Networks, is an unlikely high technology entrepreneur. A quiet spoken, somewhat enigmatic Englishman, his background before he became one of Britain's few successful technology pioneers included spells as a riding school instructor, architectural journalist and chess computer designer.

Today, he runs one of the most successful networking companies in the world and has become a passionate advocate for asynchronous transfer mode (ATM) technology which he believes will power the next generation of multimedia networks carrying voice, video and data to the desktop.

"ATM is likely to revolutionise the computer networking industry and the boundaries between computer and telecommunications networking," says Mr Madge.

Equally importantly, he believes that Madge has the strategy and product roadmap to enable its customers, "to protect their investment in existing networks while ensuring a smooth and cost-effective transition to the ATM networks of the future."

However, when he founded Madge Networks in 1988 - using his Buckinghamshire farmyard stables as office space - he had little technical experience of networking. But as technical director and general manager of Intelligent Software, a UK software house and silicon chip designer, and general manager of Enterprise Computer, a PC manufacturer, he did understand the industry and chip design, in particular.

This was an important asset since much of what Madge does involves designing low-cost silicon chips to switch data streams at high speed. His aim in starting Madge Networks was to accelerate the introduction of networking to link PCs together and build his company into the world number one in switched networks, overtaking established leaders such as Cisco and Bay Net-

works. "Information is the raw material upon which organisations build their business," notes the group's latest annual report.

"How efficiently and cost-effectively an organisation shares information - both internally and externally - directly impacts that company's success. Computer networking is the electronic equivalent of a global delivery service - providing critical business information on a

local, regional, and international basis."

While many other companies spotted the opportunity for building networking equipment, most focused on Ethernet, the industry standard technology. What Robert Madge realised was that International Business Machines had created another market by introducing its own 'token-ring' network technology - liked by corporate customers because of its robust quality.

So he made two bets: one that IBM would decide that a small British networking company with no track record posed no threat, and second

that, in an industry where technology changes rapidly, Madge Networks could improve upon IBM's own product offerings.

The gamble paid off. Madge is second only to IBM in terms of shipments of token-ring networks and last year posted sales of almost \$400m. Thanks to the surge of interest in networking, internetworking and the Internet, the group has been growing at an average of almost 80 per cent a year.

The company now employs over 1,400 employees worldwide and is expanding rapidly reflecting Robert Madge's belief that in order to be successful the company must operate globally, but still provide local service.

The window of opportunity in the networking market, like many others in the IT world, is too short.

The acquisition of Lannet was followed in January by the purchase of US-based Teles Communications for \$165m. Teles, a private company, fills another important gap in Madge's product strategy and enables Madge to provide end-to-end switched networks for large corporations.

As a result of these deals, Robert Madge believes he has positioned the group to respond to customers' desires to move towards ATM, but without abandoning all of their investments in existing networks.

Madge Networks' customers generally recognise LAN switching of token ring and the Ethernet as the fundamental building blocks necessary to bring their networks easily and efficiently into ATM.

Switching, says Mr Madge, provides the logical and evolutionary course towards fully switched networks - tackling shortcomings such as congestion and performance degradation in existing networks, while providing a natural connection point into ATM.

Directions in ATM and multimedia: see reports, pages 9-11

### Viewpoint

Indeed, Madge has been accused of taking internationalisation to the extreme. Incorporated in the Netherlands for tax reasons, the firm has no single headquarters. Senior executives are distributed among its four main regional offices in the UK, US, Holland, and France where Mr Madge now lives.

"Not only do we have offices in 37 countries, but of course those offices are often in the process of change or moving so keeping track of all that level of activity is quite difficult," he admits.

Three years ago, Madge Networks was listed on the Nasdaq exchange and now has a market capitalisation of nearly \$2bn, giving the group the financial muscle to enter the mergers and acquisition business to fill out its product portfolio or acquire new technologies.

In November, Madge bought Lannet, an Israeli networking company for \$300m in an all-paper deal which gives it access to switched high-speed Ethernet technology - seen as a stepping stone on Madge's corporate ATM roadmap.

As a result, Madge can now offer its corporate customers both switched token-ring and switched Ethernet which are both seen as staging posts on the way to ATM. Madge bought Lannet rather than try to develop its own Ethernet technology, mainly because of the time it would have taken.

■ Network security • By Louise Kehoe

# Big rise in hacker break-ins

Software tools used by hackers to detect vulnerabilities in computer systems are becoming more sophisticated and at the same time easier to use

**N**etwork security is a rising nuisance to Defence. At worst, they are a serious threat to national security.

The risks of hacker attacks on business computer systems are more difficult to assess, congressional investigators found. Businesses are reluctant to report intrusions to law enforcement authorities "due primarily to fear of the marketplace and of government", according to a recent Senate staff report.

Companies fear a backlash from customers - and the stock market - if they reveal their vulnerabilities, the report says. "Company insiders confirm to the staff that they have experienced intrusions on a regular basis, but fear reporting them to the government or other agencies that might ultimately report them into the public record."

Industry surveys, however, provide some measure of the problem. A group of leading US computer security consultancies, for example, identified losses of \$800m worldwide last year among clients in the banking and telecommunications industries, with half the

■ Network costs • By Marcia MacLeod

# Always the unexpected

**I**nstalling a network is a lot like moving house: if anything can go wrong, it probably will, and the total cost somehow always adds up to more than the apparent sum of its parts.

For although a network may not suddenly display rising damp, it does hide a myriad of potentially expensive requirements of which no-one, least of all the board-member authorising the purchase, is likely to be aware.

Take the software, for instance: cash outlay for purchasing licences only amounts to 14 per cent of the overall lifetime cost of computing, according to Patricia Ryan, European general manager of WRQ, a software house specialising in network connectivity products.

"Ongoing support costs account for 45 per cent of the total," she says. "To maintain a large network environment, the customer has to run a help desk. If it decides to upgrade software and it has, say, 250 PCs, the cost in terms of manpower to upgrade those PCs and support the desktop user can run up to as much as 125 man hours."

WRQ believes that support per 'node' (PC) in a local area network (LAN) can reach \$1,200 (£784) - or \$300,000 for a

250-user network. By these figures, support costs will exceed the price of the desktop system within three years.

The desire to save money can itself lead to more expense. "When installing a network, people often look for the cheapest product for each purpose," Ryan points out. "This includes the cheapest PC, the cheapest database, the cheapest modem, and so on. "But by doing so, the user is putting together a multiple-vendor installation, which means more time and expense - and therefore money - must be spent on ensuring that all these different products from different vendors fit together."

### Who pays?

"The interplay between products is important, but getting it right 'ests' time."

And some of the most costly hitches come when something goes wrong: whose product is at fault? Which maintenance contract is relevant?

"The cost in downtime and in fighting with the vendor to apportion ownership can be crippling," says Ryan.

Even the distribution and installation of software throughout the organisation can, according to a Gartner

Group study, account for 17 per cent of total software costs.

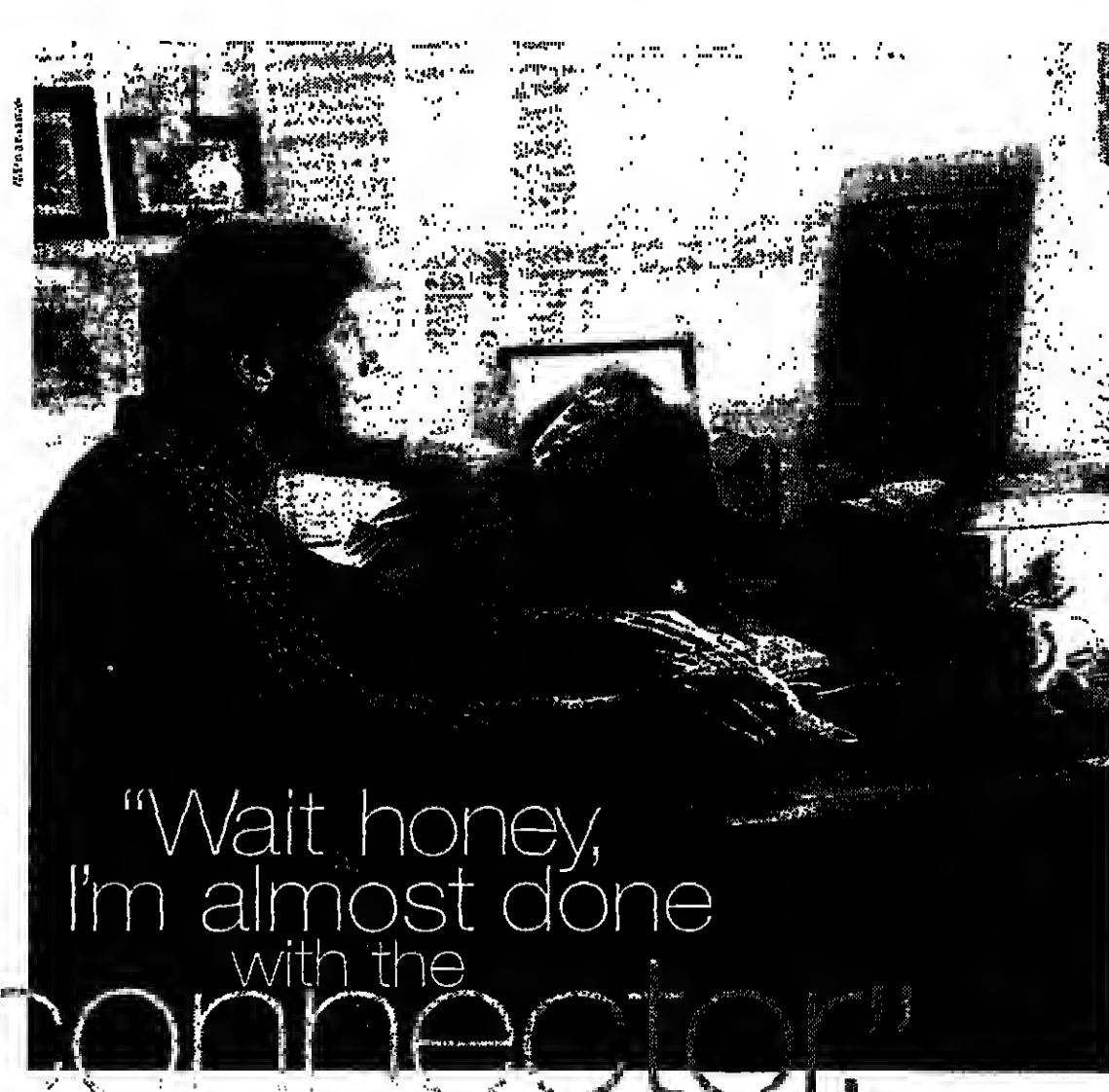
The rot can be contained: centralising purchases instead of letting each department, or even each desktop user, decide what to buy, when and from whom will go a long way towards reducing expenditure and increasing efficiency. Not only will the problems of running multi-vendor systems be minimised, but volume discounts, including blanket software licences, could become available.

Centralised purchases can also eliminate the problem of "over buying" software - buying packages which the company already owns and for which extra licences can be obtained cheaply. The Personal Computer Asset Management Institute in the US found that US companies, government and military organisations spent as much as \$2bn on software they already owned.

A range of software products exists to help central network control. WRQ's *Reflections*, for instance, enables the PC to emulate the host terminal - to pretend it is a Dec, IBM, HP or other server - to enable every desktop user to access all corporate data from anywhere in the network.



Madge: his gamble paid off



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### Global networks

Continued from previous page

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Site installation may reveal problems which require local presence and knowledge. Firstly, cabling has to be installed before the rest of the equipment arrives, and this must be done according to local building regulations.

Requirements from local PTIs must be understood, as various countries have different rules as to what equipment can be connected to the telephone network. There may be labour laws requiring union staff to install cabling or other equipment and training may be required for the customer's local staff.

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Security Issues

Rise in virus infections

Continued from facing page:

Moreover, to be effective, firewalls must be regularly updated as hackers develop new methods of attack. Systems administrators must also keep pace with a constant stream of "upgrades" and "patches" issued by computer and software companies in response to the latest hacker incursions.

Computer viruses - rogue programs that can disable a computer or destroy data - are another aspect of the problem. Sometimes planted by hackers, but more often introduced unwittingly into a computer network by a regular user, viruses are costing businesses billions of dollars in reduced productivity and direct losses.

Virus infections have increased almost ten-fold in corporate America over the past year, according to an NCSA study published earlier this year. NCSA estimates the costs of viruses to US companies and organisations will rise to between \$2bn and \$3bn this year, up from about \$1bn last year.

Another important element of network security is encryption. By encoding electronic mail - whether it be a private message, a purchase order or a credit card number - computer users can ensure that even if their files are stolen or intercepted they will not be readable.

Currently, the US software industry lobbying Congress to change export control laws that prevent the sale of strong encryption programs outside the US except in special circumstances.

Authentication systems that ensure messages or documents passed over a computer network are genuine and have been sent by the person or company that they purport to come from, are also expected to become a standard feature of data network communications, particularly in electronic commerce.

Even as new security systems are developed, however, hackers keep finding new ways to circumvent them. Maintaining the security of data networks appears likely to remain a difficult and expensive problem for years to come.

Case study: European Bank for Reconstruction and Development

Intranet transforms communications at international summit

The EBRD deploys an Intranet at its conference in Sofia, Bulgaria, writes Rod Newing

The European Bank for Reconstruction and Development was founded in 1991 to help the east European and former Soviet Union countries in their transition to market economies. Each year it brings together 4,000 of the world's leading industrialists, financiers, government, economic and finance ministers and journalists to meet and discuss issues which are particularly relevant to private sector development in the region.

The bank deployed an extensive Intranet at this year's international summit in Sofia. "We provided electronic mail to our delegates at last year's conference in St Petersburg," says George Kurczaj, IT client services manager at the EBRD.

"The facility was more successful than we ever imagined, so we wanted to expand it this year. However, as we had no funds we had to invite sponsors to come in with us."

The Intranet was built as an international collaboration between several sponsors. Microsoft provided Windows 95, Windows NT Server, Microsoft Exchange, their recently launched Internet Information Server, Internet Explorer browser and Microsoft Mail messaging system, as well as expertise and development skills.

Wang/BISS undertook the development work, which integrated the Microsoft products with an Oracle database, the Novell network operating system, PCs from a Russian supplier and cabling supplied by a Bulgarian telecommunications company. "The whole system was designed and tested in ten weeks," says Mr Kurczaj. "Time was of the essence, but everybody was committed. Integrating the different multi-vendor



Delegates at the EBRD's annual meeting using some of the 40 terminals of the Temis system at the Congress Centre in Sofia. More than 20,000 messages were generated on the system in three days

products proved to be quite a challenge. Another problem was faced that Microsoft's Intranet products were still in the beta form, so there was little experience available on the most effective way to deploy them.

"We would love to have set the network up in advance, but there wasn't an opportunity. All the elements were thoroughly tested and then shipped to Bulgaria. We had five days to set up the network at the conference location."

Easy to use

There were 40 terminals provided for conference delegates - "it felt a bit like the first Apollo moon shot. We tested all the elements and then trusted that the system would work first time," he adds.

There was no opportunity to train users, so the system had to be very easy to use. Delegates signed on with a bar-code on their badge and were greeted by an image of themselves, scanned from their security photographs and retrieved from the Oracle database. The Intranet allowed delegates to browse for information on conference sessions,

retrieve transcripts and translations, find out more about government schemes for funding, access the on-line conference newspaper and seek potential partners and contact them through the integrated messaging system.

"We had delegates queuing to use the system between sessions," recalls Mr Kurczaj. "The most popular use was to allow participants to mail each other so that they could arrange to meet to pursue business opportunities. This is where the scanned images were so useful in allowing them to recognise each other."

The delegates generated 20,000 messages over the three days of the conference.

"An information system has become an established feature of our international summit," says Mr Kurczaj. "The Intranet has given us a good start and has been a proof of concept of what can be done. We will develop it and enhance it next year. We will also build an Intranet in the Bank."

The email address for George Kurczaj, IT client services manager, European Bank for Reconstruction and Development, is: kurczaj@ebd.ebrd.com

Marketplace alliance in IT services • By Nuala Moran

The US investment bank J P Morgan has created a new model for outsourcing by inducing competing suppliers to set up a consortium to manage parts of its global IT infrastructure.

The terms of the seven-year, \$2bn contract, require the four suppliers not just to provide specified, discrete elements, but to work collaboratively, sharing their resources and technology, to deliver a seamless service.

Apart from managing activities that represent about a third of its \$1bn annual IT spending, the bank says the deal will give it access to the technological expertise of all the partners to support new business and product development.

In effect, J P Morgan will be "having its cake and eating it" - getting companies that competed for the recent contract, and will compete again for the next - to suspend competitive instincts and pool resources on its behalf.

The parties to the deal, Computer Sciences Corporation (CSC), Andersen Consulting, AT&T Solutions and Bell Atlantic, have set up the Pinnacle alliance with J P Morgan as the collaborative vehicle to run the contract.

Pinnacle will manage the bank's data centres in New York, London and Delaware, distributed computing operations, including desktop computers and local area networks, and voice and data centres in New York, Delaware, London and Paris, and some corporate applications in the US and Europe.

Jean-Michel Deligny, principal of the consultants Broadview Associates, says: "The way this deal is structured will enable competitive tensions to be overcome. Although the collaborative element is being stressed, in fact responsibility for particular parts of the infrastructure is defined by the contract."

The 900 employees (45 per cent of the bank's total IT staff) working in outsourced areas are transferring to the supplier companies, though J P Morgan did not reveal how many will be allocated to each. The bank expects to cut its IT costs by 15 per cent over the life of the contract.

Peter Miller, co-head of cor-

A new model for outsourcing

Supplier companies suspend competitive instincts and pool resources to deliver 'a seamless service' for US bank

porate technology at J P Morgan says: "We want world-class capability in all areas of technology. While we had some ourselves, it is not realistic to think we could be best in all areas. By the same token, no one supplier can meet the growing technology needs of our global business."

J P Morgan threw down a challenge to the marketplace to come up with a joint bid. "Our idea was to push suppliers' thinking to see if they could come up with a best-of-breed approach," says Mr Miller.

John Mickel of CSC was responsible for bringing together the team members to bid for the Morgan contract. Mr Mickel, now the lead executive of Pinnacle, says: "There are real and important differences between a prime and subcontract deal and a Pinnacle. We have an agreed set of principles, on how we operate, and how we share people and knowledge."

Whatever the hype, or the aspirations, on the face of it this deal looks like a tradi-

tional prime contractor/subcontractor agreement, with CSC as the lead company. All members of the Pinnacle Alliance will remain on the payroll of their original employers.

However, Mr Mickel claims it will not be a case of each company delivering its part of the contract with CSC overseeing the whole. "Staff will work exclusively for the alliance, and will be formed into cross-company, multi-disciplinary teams. Everyone involved will have Pinnacle on their cap badge," he says.

This perception is shared with the other partners. Stephen Raccipio, a regional manager for financial services at Andersen Consulting, says: "There are real and important differences between a prime and subcontract deal and a Pinnacle. We have an agreed set of principles, on how we operate, and how we share people and knowledge."

It was not possible to make

the Pinnacle principles legally binding, but Mr Miller argues that, in any case, it was not necessary to do so - "there is a lot of peer pressure to behave well. In this alliance it will not be accepted behaviour for people to do finger-pointing."

Executives from each of the suppliers will have equal access to senior people in J P Morgan through the alliance's operating team. This team will be responsible for allocating resources and managing the activities of the alliance.

"The formation of a management team, made up of key executives from all the companies, is a first for a technology services agreement," claims Mr Mickel.

The companies believe that the equal standing they have in the operating team, along with the principles, will smooth away competitive friction. "We will share risks and rewards. We all recognise that the real value will come from our being willing to reach into our collective knowledge," says Mr Raccipio.

He accepts, however, that this deal does imply some loss of control. "Obviously there are competitive implications of, say, sharing software tools. But we do have intellectual property rights, and we also look at any risk from the point of view that we are not leaders because we stand still."

Whilst they have risen to J P Morgan's challenge to collaborate, the companies do not want this deal to be read as an acknowledgement that single suppliers cannot meet the outsourcing requirements of multinational companies.

"Not every client would want an alliance," says Mr Raccipio. "Collaborating on this deal does not affect our ability to deliver a full range of services to other customers."



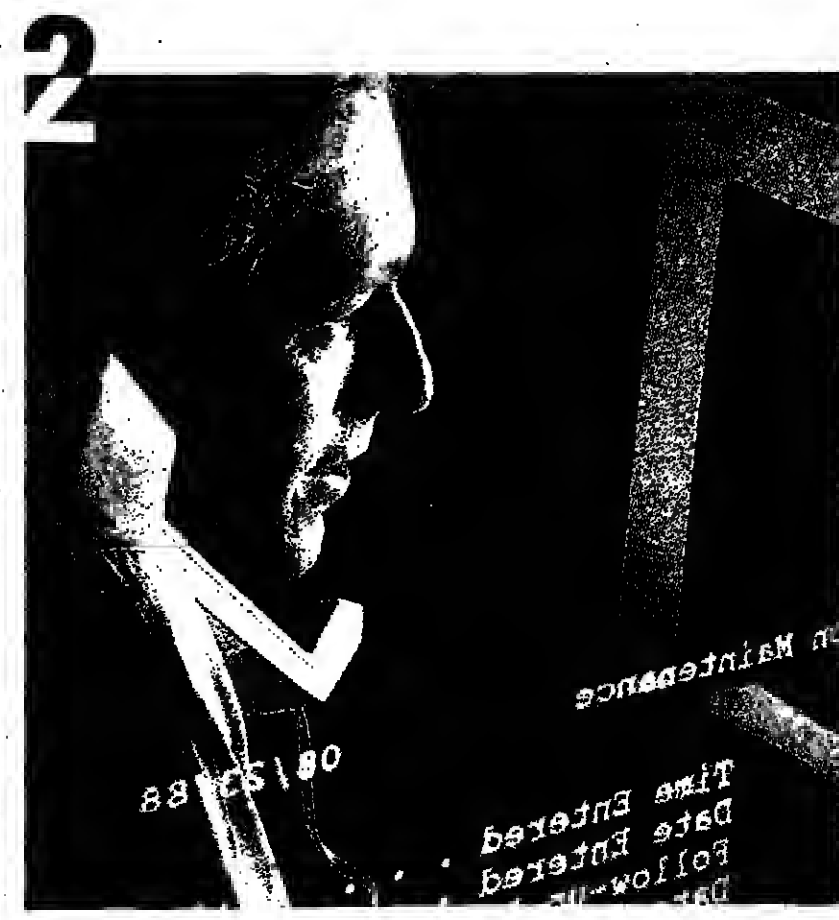
The world headquarters of J P Morgan in New York

SIEMENS NIXDORF



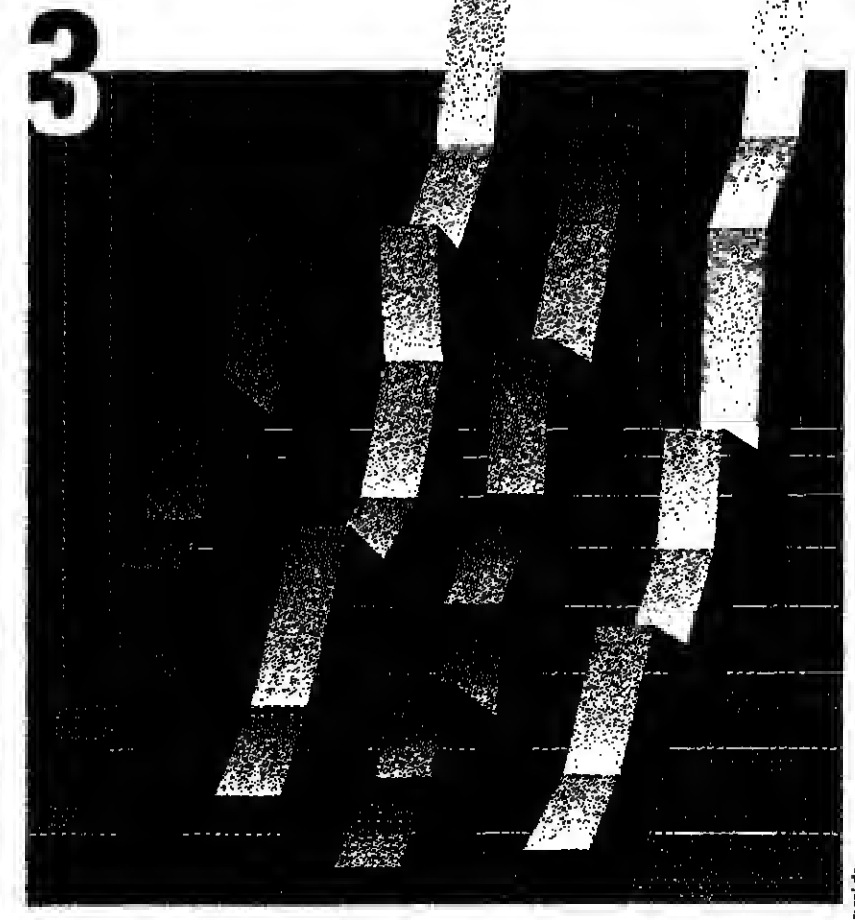
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Change Attitudes



8 FT-IT

Crest: electronic share settlement system

■ Securities settlement: the arrival of Crest • By Nuala Moran

## Not a moment too soon

The ghost of Taurus, the UK's abandoned system for paperless share settlement, will be laid to rest later this month when the new Crest equity settlement system goes live - delivered on time, and to budget

Crest, the electronic securities settlement system, will usher in the beginning-of-the-end for share certificates, and comes just over three years after the Board of the Stock Exchange announced it was scrapping its attempt to eradicate paper with the Taurus computer settlement system.

Beginning on July 15, securities will be progressively translated from paper records, into an electronic format, or "dematerialised".

On August 19, the first transactions will be settled in Crest. The transition will culminate in April 1997 when the Stock Exchange's Talisman settlement system is due to go out of service, 17 years after it first began operating.

For the UK securities industry, Crest arrives not a moment too soon: all of its international competitors already have paperless settlement systems - "the UK industry needs Crest to stay in front," says Iain Saville, chief

executive of Crestco, the company set up by the Bank of England to establish and run the Crest system.

"Having an outdated settlement system is like letting the sewers rot: people cope, but efficiency decreases."

The previous attempt to introduce electronic settlement was overwhelmed by the technical and political impediments, as the Stock Exchange struggled to accommodate all the requirements, of all its members, into the functional specification of Taurus.

The resulting complexity and "requirements creep" was the undoing of Taurus, and in March 1993 the project was binned. The City still needed a new settlement system, but it could not afford a Taurus 2. Responsibility for developing the system passed from the Stock Exchange to the Bank of England, which appointed a task force and gave it two months to come up with a new proposal.

The task force proposed a technically simpler architecture - a basic settlement engine with none of the frills that hobbled Taurus. But perhaps more significantly in winning acceptance, while Taurus would have forced shareholders to give up their paper share certificates, Crest does not. Shareholders who choose to keep their share certificates will be able to buy and sell shares in exactly the same way as they do today.

Although paper-backed transactions will be more expensive, Mr Saville said this is not deterrent pricing, but a reflection of the extra costs of handling paper.

Following approval of the task force proposal, the business requirements for Crest were finalised in May 1994 and the development of the software, (with the development process audited both by the Bank of England's internal auditors and Price Waterhouse) was completed by December 1995.

In that time, Crestco grew - from six employees of the Bank of England, working on the Bank's premises, to a staff of more than 120 with offices

near Tower Bridge, London.

The Crest system runs on Tandem Himalaya computers. Rather than operating them, Crestco has outsourced care of the machines to Hoskyns, part of Cap Gemini Societ, the computer services company which employs 20,000 people in 15 European countries.

Two dedicated computer centres have been set up in Vaux-

hall, London and Greenford, Middlesex. The system is designed to settle up to 150,000 transactions a day, involving up to 5m accounts.

The Himalaya processors are scalable, allowing extra processing power to be added as required. The Crest computer will be available 99.5 per cent of the time - in other words it is allowed 10 hours downtime per year.

Similarly, rather than setting up and running the networks to link in the users, Crestco has drawn up the specifications and designated two

approved suppliers, Swift and Syntegra.

Network security is paramount and one of the key requirements was the ability to authenticate messages, so that Crest is confident when transferring securities or creating payment instructions it is acting on valid instructions, issued by the legal owner of the securities.

Each user in Crest will access the system via a gateway, which will be, at a minimum, a personal computer. This will transfer data from the user to Crest, and support access to the system.

Mr Saville says the decision to outsource was "a question of focus". The Bank of England team at the core of Crest had experience of designing and building paperless settlement systems - "we decided early on to strip out things where we had less experience, and hand them over to suppliers who do".

The total cost of development and getting the system running to full capacity will be under £30m. (Although, never officially acknowledged, the outlay on Taurus is said to have been £55m).

Crest will cost £18m a year to run and, if it makes a profit, users will get a rebate.

As the Stock Exchange currently has an income of £56m a year from the Talisman system, the securities industry will see its processing costs

**The system can settle up to 150,000 transactions a day. Network security is paramount**

### How Crest works

- Crest will respond to electronic messages from members to transfer stock between accounts.
- It will authenticate the messages and compare the instructions input by the buyer and the seller - and match them.
- On settlement day, it will check the availability of stock and cash in the Crest members' accounts, and move the stock from the seller's account to the buyer's. The buying member's bank will be instructed to pay the selling member's bank and will be unconditionally obliged to do so.
- Crest will notify the stock's registrar who will commit to register valid transfers within two hours of the electronic transfer within the system.
- The contents of each member's accounts on the register, and in Crest, will be a mirror image of each other.

■ Issues and options • By Nuala Moran

## Strategic IT development by the securities industry

Crest will put the industry on a new IT platform that can support wholesale changes in the way it operates

The spotlight may be on Crestco, but its work to deliver the system at the centre of the UK's new paperless equities settlement system has been matched by the efforts of the user-companies to link their computers to Crest.

Of two possible approaches: take what you have got and plug it in; or replace your entire settlement system with one built to be Crest-compliant, only the broker Hoare Govett has taken the latter option.

In part, this is the failure of Taurus casting a long shadow - many companies spent heavily on developing systems to link into this earlier attempt at an all-electronic system, money which was wasted when the Stock Exchange scrapped the project in March 1993.

"More important though, is the high overall cost of replacing existing settlement systems with new Crest-compliant ones," says Peter Little, managing director of the financial software company, Braid Systems.

It is also enormously complex and involves every corner of the organisation - "there

must be a wholesale change of business practice and, for this reason, people are choosing to move existing systems to Crest. However, they see this as Stage 1 of a larger process," says Mr Little.

Braid has installed Crest systems for 12 companies including registrars, custodians and brokers.

Gerard Kenny, of the software house TCAM Systems agrees: "Many Crest participants have selected tactical, relatively cheap, front-end solutions to connect their older settlement systems."

While opting for the less complicated option of keeping existing systems, some companies have invested in very sophisticated front-ends to handle interactions with Crest - "this minimises the number of changes they need to make to their host computers, at the same time as allowing them to get the maximum benefits from the introduction of Crest," says Mark Freed, sales manager of Citymax.

The company has supplied its front-end software, called Arrow, to 30 Crest users. It also manages gateways into Crest

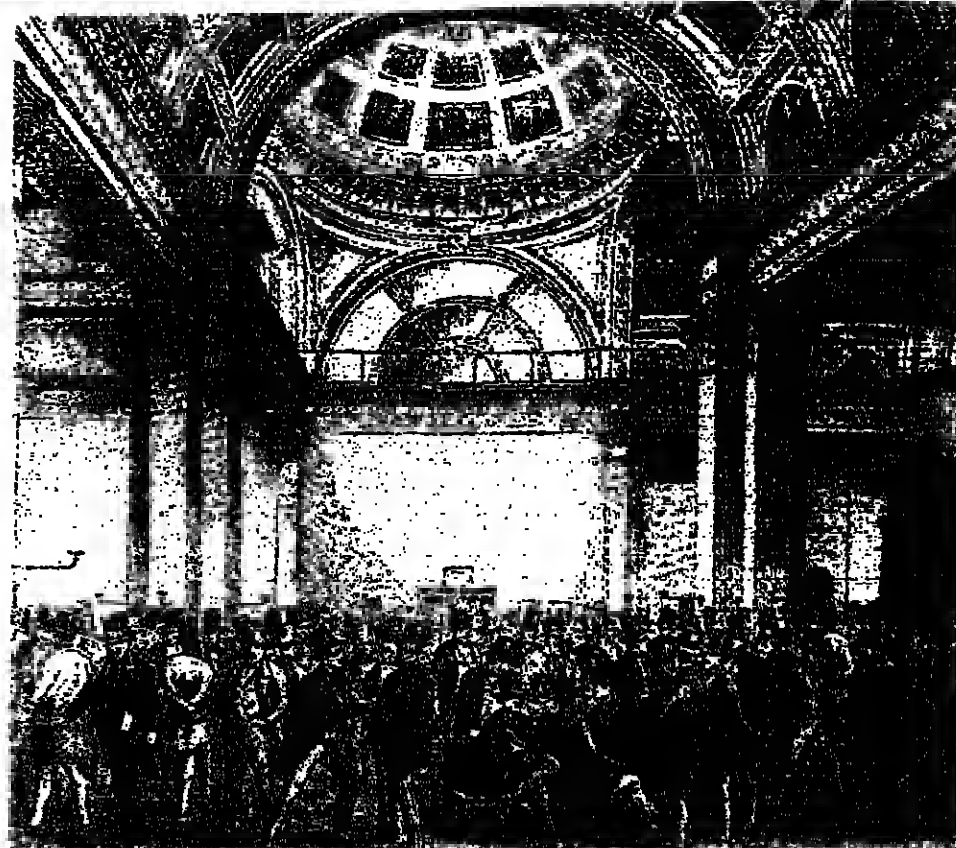
no behalf of 12 clients, and so has good insight into the trials which, it says, "went well".

Mr Freed expects the successful delivery of Crest to prompt a wave of investment in new settlement systems. "Most of the industry is working on systems that are 10 to 15 years old, but they don't want to change them before Crest is bedded-in."

Mr Kenny agrees that a lot of companies have delayed upgrades until they have digested the move to Crest: "The more important strategic decisions will be taken once Crest has become a 'known quantity' and extends the range of services currently being offered."

One such issue will be deciding whether to amalgamate equities and gilts processing systems when the Bank of England upgrades the Central Gilts Office to run on Crest software next year. Although the two systems will continue to be separate, it will be possible to access both through one gateway.

This example highlights the fact that while the safe delivery of Crest may mark the end of a stage, it is the beginning of a new phase of strategic IT developments by the securities



Top hats everywhere: the London Stock Exchange in 1890

fall dramatically.

But that is not all: by moving to rolling settlement (where all transactions are settled a set number of days after they take place), and delivery versus payment (where the shares and the cash are exchanged simultaneously), Crest will reduce risk, and more significantly, put the UK industry on the same footing as its international competitors.

Crest has been financed through the private sector, with 68 member-firms contributing £12m in equity, and a £17m borrowing facility.

Despite putting up the money, the shareholders have no voting rights. Their views are represented by a steering committee, but full control of the project has remained with the Bank of England. This has enabled Crestco to decide on a functional specification and stick to it - unlike Taurus, where the Stock Exchange was running to keep up with the often-conflicting requirements of its members.

There have been criticisms that in avoiding the functional overload of Taurus, Crest has become too skimpy. Indeed,

there are some functions in the existing Talisman system, notably report generation, that are not available on Crest. Instead, Crest will supply users with the raw data they need to do their own analysis.

Another criticism is that there are no links to the Seaq trading system. Rather than

actions will be transmitted directly from Crest to the London Stock Exchange to allow it to police the market and ensure that trades and settlement data marry up.

Shareholders in Crestco will be able to dictate future enhancements, as control of the company will be handed over to them once Crest starts operating.

Meanwhile, Mr Saville is "confident it will start on time" and that there will be "no alterations" to the transition timetable.

His confidence derives from the progressively more sophisticated trials that have been taking place over the past three months. These began on March 11 - just one hour behind schedule - with the 25 registrars that are responsible for maintaining company share registers. Following this were full scale trials involving all 260 participants in the system, completed at the end of June.

But Mr Saville is not crowing about delivering a UK equities settlement system when the Stock Exchange failed to do so - "I don't regard it as some sort of triumph, just as a piece of good management," he says.

However, details of all trans-



The scene today: dealers at James Capel in London. Pictures by Tony Andrews



Agitated moments in 1867: dealers on the floor of the London Stock Exchange watch information screens as prices fall. Picture by Peter

### Crest and the private investor

The next issue of the FT's Quarterly Review of Business Finance - to be published with the UK edition of the newspaper on July 16 - will look at the impact of Crest on the private investor.

Crest will save millions for the big institutional investors but it could make life more expensive for individual investors - particularly those who decide to buy their own share certificates. In theory, the move from paper to an electronic settlement system should cut costs, not put them up. But there are a number of reasons why many private investors will find themselves worse off once Crest is fully up and running next April.

Not a computer screen in sight: 29 years ago, jobbers and brokers thronged the London exchange in June, 1967

Picture by Glyn Gwyn

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Directions: Multimedia

# High risks in the race to market

Publishers are discovering that the development of CD-Roms for the 'edutainment' market can be a costly business

On March 25 this year the UK's First Information Group, FIG, went to market in a flotation that raised \$2m from institutional investors.

FIG was formed in October 1993 and only released its first CD-Rom in November. This was an interactive educational product aimed at guiding viewers through the origins and progress of the First World War. As a multimedia product it contains interviews with historians, 25 minutes of archive film and a series of storylines which the viewer can select. Priced at £29.95, it was the first of FIG's current catalogue of seven CDs.

Eugene Miskelly, joint chief executive of FIG, is predictably bullish about his company's future - "this market is starting to explode," he says.

His confidence is based on the proliferation of CD-Rom technology. The drive to run a CD-Rom, with the necessary sound and video cards, has only become a standard PC component over the last two years. Prior to that, a CD-Rom drive was an expensive add-on.

Optical Publishing Industry Assessment, a report from US group Infotech, talks of a huge market for its members' products, with multimedia home computers boosting the population of CD-Rom platforms to more than 400m worldwide by the year 2000. It follows that the number of programs sold to exploit this capability must run into billions of units.

"Edutainment", the awkward mouthful that characterises product lines from companies such as FIG, will account for 50 per cent of worldwide sales of consumer software by 2000, the OPIA says. These are the kind of statistics that could have every software house in Europe and North America rushing to launch titles - but this could be a costly mistake.

Tim Ashley, managing director of Wicked Web, an Internet consultancy, specialises in

Web advertising, has studied the rush to CD-Rom. He warns that while money can be made, the only areas likely to be safe are in established markets such as the serious educational sector that FIG has targeted.

"A lot of traditional publishers are not making money out of CD-Roms," says Ashley. He believes that when the development budget, as high as £250,000 per title, and packaging and distribution costs, accounting for 20 per cent of the price tag, are taken into account, it is too easy to lose money in the race to market with multimedia titles.

Miskelly is well aware that

on a PC. The sound card cost £100 and the CD-Rom drive cost £200.

Ashley produced his multimedia at what was then a very good price, because he was willing to install the components himself - "this exercise still involved hours and hours of endless hassle." Today that capability is inherent in most new PCs.

The home market for PCs - often purchased for their educational value - is also driving CD-Rom sales, says Pilar Cloud, general manager of Broderbund Europe, part of the \$117m US software group that created Living Books to exploit the home multimedia market.

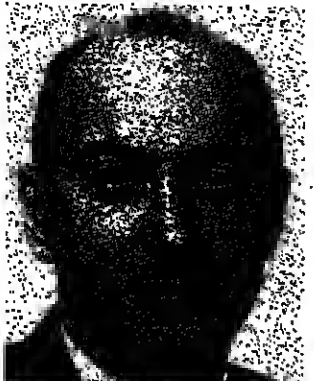
Living Books subsequently became a joint venture, divided between Broderbund and Random House, the largest general trade book publisher in the English-speaking world. Random House's contribution to Living Books is its vast catalogue of titles that strike a chord with parents who want to introduce their children to favoured authors via the latest technology.

Cloud agrees that it is easy to misjudge multimedia publishing. Having access to titles on the Random House list is one way to even the odds; heading straight for the biggest market is another.

"We've sold more than 2m multimedia units worldwide, a very high proportion of those, say 90 per cent, have been in the US," says Cloud.

Costing between \$40-\$60, these English language titles are at the core of profits made in this sector. FIG knows that international distribution is important, but in this business "international" means the US, in particular.

Ten per cent of the UK company's 110 staff work in Boston, pushing its "edutainment" Part of that process will see players getting it wrong before the dust settles. Investors should look carefully before leaping into multimedia adventures.

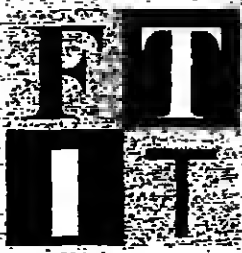


Miskelly of First Information Group bullish predictions

the nature of multimedia, combining voice and visual images with text, makes it totally different from book publishing. And he says Ashley's estimate of title development is on the low side: "We spend up to £500,000 on each title. It's a labour-intensive exercise - up to 20 people can be involved."

The very attraction of a multimedia product introduces extra costs: rights for pictures, text, film and music all have to be paid for.

Ashley recalls fitting out a PC built around the now-outdated 386 chip, with multimedia facilities. "It was four years ago. I put sound and graphics



## Directions Multimedia in education and entertainment

pean language costs around £40,000. Putting "talking heads" on a PC screen has attracted the public, but it means that a mere translation will not be sufficient for FIG's proposed French, Italian, Hebrew and German editions: voice-overs must be synchronised with lip movements when working in some languages.

## Economics

Some companies are mastering the tricky economics of multimedia CDs. The \$199 Playstation, a system dedicated to playing the most advanced video games on CD, has been credited with transforming Sony's corporata loss of ¥220.9bn for the year to April 1995 into a profit of ¥188.2bn at April 1996.

EDS, the computer services giant, has launched Media Vault, a service for companies that need to archive footage of images from film and TV sources. The advanced database software involved means Media Vault can cost up to \$200,000. But the aim is to create an archive of thousands of hours of footage that can be scanned for retrieval in short order.

EDS knows there is money to be made here, but it is a relatively new area - "we are in the process of identifying the boundaries of this industry," says Reza Jafari, managing director for global entertainment media at EDS.

Part of that process will see players getting it wrong before the dust settles. Investors should look carefully before leaping into multimedia adventures.

## Computers in the classroom • By Tom Foremski

# Big debate on US initiative

US schools are at the centre of a drive to provide children with more computers

Earlier this year Bill Clinton, the US president, and Al Gore, vice-president, took part in NetDay 96 which involved almost 18,000 volunteers installing network cabling in more than 5,000 of California's 13,000 schools. The organisers estimated the free labour was worth about \$115m.

The event was part of the Clinton administration's call for more computer technology in the classroom. And although NetDay added a lot of cables to schools, it did not add computers or provide teachers with skills for using them effectively in the classroom.

The Clinton administration has succeeded in bringing attention to the need for computers in the classroom, but little is known about how effective computers are in teaching today's young students - raising the question of whether the exercise is simply throwing technology at the educational challenges facing US schools.

There is some evidence that students do learn more effectively, but little on whether the computer skills they learn will help them in their future studies or career choices. By the time today's young students leave school there will be better computer platforms and perhaps they will not need to be familiar with the vagaries of Microsoft and Apple operating systems.

Late last year, Clinton visited San Francisco and announced his Technology Literacy Challenge, urging businesses, industry and local government to "make a commitment of time and resources so that by the year 2000, every classroom in America will be connected to the Internet."

The problem, however, is that computers in US schools varies widely. The US Department of Education reports that the ratio of students to computers is now about 10 to one but there are still hundreds of thousands of



The Jason project: students around the world took part this year in a live, scientific underwater exploration in Florida Keys, in the US, via the first underwater world web site and "telepresence" link, provided by EDS, the IT services group, in partnership with private industry

classrooms without any computers or with antiquated machines. For example, many schools still have large numbers of Apple II computers, which are five to 12-years old. And at least 50 per cent of the US's 2.5m classrooms do not have a phone line, let alone multiple phone lines for Internet use.

## Response

Several large US corporations have listened to Clinton's call to become involved in modernising US schools with grants of money, equipment, services and teacher training. Pacific Bell, for example, is offering cheap Internet access to California's schools. Other leading US technology companies are involved in projects around the US, representing hundreds of millions of dollars in donations.

Some US corporations have realised they must go beyond simply pushing more computers into the classroom. A US West Communications, a telecommunications company, says it has

invested almost \$60m over the past seven years in educational programs, donations of equipment and services. It recently launched its Connected Schools Initiative, which provides teachers with Internet access, and, more importantly, training and support.

"Our research showed some surprising findings about the usage of technology within schools. While computers are generally available, they are not fully utilised at the teaching level for students or to train teachers," says Jim Smiley, vice-president at US West. "Connected Schools will enhance the use of technology as a teaching tool by giving teachers access to curriculum building materials, increasing communications with other teachers, providing the ability to exchange e-mail messages with subject-matter experts, and opening the opportunity to participate in electronic conferences and online training."

Computer vendors are also angling for larger shares of the school market. Apple has traditionally held the lion's share of

the school computer market but its lead is slipping as IBM PC-compatible vendors target this market. This competition is good news for schools in terms of discounts and financing.

## Weak point

Although initiatives such as the one proposed by the Clinton administration are helping to bring computer technology into the classroom, school administrators are a weak point in the process. For example, the New York City Board of Education, which represents the largest school system in the US, has been making huge cuts in the number of staff who oversee the training of teachers in the use of computers.

And local school administrators are loath to spend funds on computers, even though some estimates put the four-year cost of equipping every pupil with a Pentium PC at just \$1 a day per student.

The issue of cost is most important. School funding is at an all-time low in many districts, where it is a challenge to obtain money for textbooks, let alone high-tech items such as computers, modems and Internet access.

One way to decrease school costs is with used computer equipment. There are several non-profit organisations in the US that offer corporate tax write-offs when companies donate older computers to schools. The organisations will refurbish the computers and send them into local schools.

New technologies could also help by making computing more affordable. The network computer, for example, is a concept being widely promoted by Oracle, the database software company, and Sun Microsystems, the workstation manufacturer. These two have developed a specification for a network computer that could be sold for as little as \$500 and provide full Internet access and the ability to run a variety of programs written in Sun's Java language.

Larry Ellison, head of Oracle, has spotted educational possibilities for the network computer and has teamed up

Continued on next page

# Software Diner.



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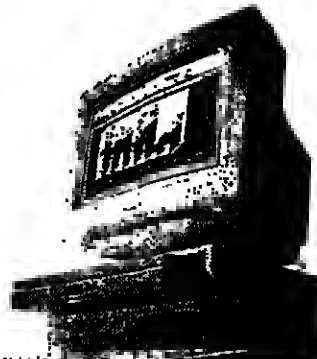
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The Information Society • By George Black

# Complications delay birth

Market access, regulation, and intellectual property rights are among the problems that governments will have to resolve before the new world dawns

A year and a half after the Group of Seven ministers' first conference in Brussels on the "information society", that brave new world still looks a fair way off. When it arrives, multimedia technology promises to deliver to the education and entertainment sectors many useful new systems, ranging from tuition by videoconference to online database access.

Last year's meeting in Brussels of ministers of the group of seven leading industrial nations aimed to assist in the birth of the information society and the superhighway on which it will super-speed.

To create such a society, governments have to sort out a number of extremely difficult issues. The G7 Industrialists' Forum, linked to the Brussels conference and comprising around 40 leading companies involved in information technology, has published an

agenda for governments to tackle. It covers the liberalisation of telecoms to introduce more competition and drive prices down, the opening of markets and an increase of free trade, and the establishment of cross-media intellectual property rights.

The 1994 report by European Industry Commissioner Martin Bangemann also listed encouragement of investment, open access to networks and data protection as key topics. To these many industry leaders would probably want to add data encryption and media ownership.

Among the main concerns of European governments is to ensure that the new world of multimedia is not totally controlled by US companies. They want to ensure that it yields a fair proportion of products based on European culture and European languages. They see an alarming precedent in the film industry, to which multimedia is closely related.

The G7's Brussels conference was followed by another in South Africa in May, extending the scope of the debate from the industrialised to the developing nations.

Meanwhile, the EU has launched a number of multimedia programmes and the Organisation for Economic Co-operation and Development (OECD) has also debated the subject.

So there is no lack of high-level talk. The official bodies have also put in motion a number of practical initiatives, from developing electronic libraries and museums to setting up a European education software taskforce.

Members of the European Commission are keen to establish an "Open University for Industry", the Commission has nailed its colours to this mast by designating 1996 the 'Year of Lifelong Learning'. One of its main aims is to draw attention to the inadequacy of existing educational facilities for equipping people to cope with the fluid job market of the

future information society. Mr George Hall, head of corporate affairs at computer manufacturer ICL, says the EU's programme has been very positive. "But," he adds, "there are a lot of conflicting interests and there is no easy solution to the problems. There is still a very large amount of work to be done."

Following the lead of the G7 Brussels conference, the UK government in February allocated around £5m to an 'information society initiative', over four years.

Under this initiative, a multimedia demonstrator competition was launched by the Department of Trade and Industry, with £5m prize money offered to the projects which best demonstrate the business advantages of multimedia products.

The DTI has also produced a set of multimedia case studies and plans to offer a number of creativity awards aimed at stimulating the development of digital products by businesses and students.

Through initiatives such as these, the barriers between sectors such as publishing, computing and broadcasting have begun to be broken down.

But bringing together regulated industries such as telecommunications and broadcasting with unregulated ones such as computing and publishing is bound to cause some friction.

A blueprint may be the South Bristol Learning Network, a project which was designed to introduce the latest IT into an urban poor community previously deprived of it.

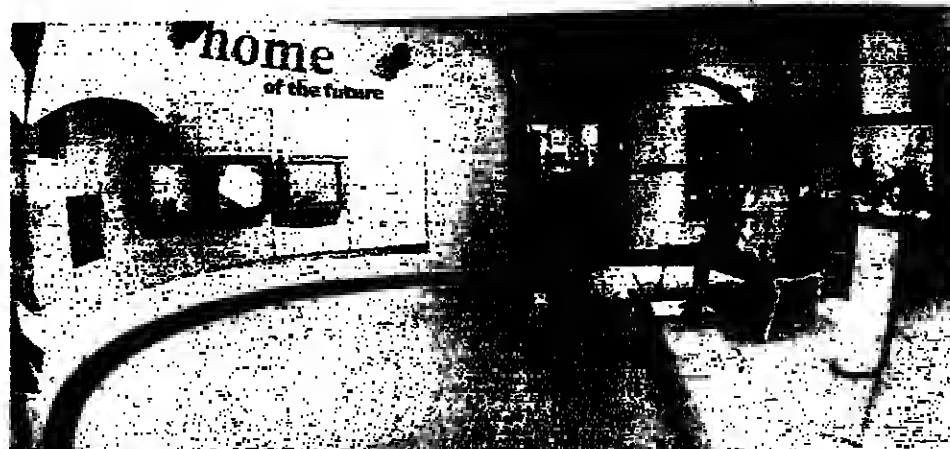
Some 6,000 people have been trained through that project, around 80 multimedia roadshows have been delivered to local organisations and the network is being cloned in several other places around the UK. It is planned to start a similar scheme in Brussels and there is interest in the idea from all over the world.

The project indicates a possibility of building the sort of superhighway that US Vice President Al Gore has championed, driven by demand rather than supply.

Multimedia applications • By Nuala Moran

# Wired-up home of the future

Exhibition brings together new systems for education, work, shopping and entertainment



Features at Granada's Futurevision multimedia exhibition include ICL/Fujitsu's flat plasma television screen and all-around-sound from an acoustic 'spider'

Multimedia - the ability to mix and manipulate sound, words and pictures, and pump them down a single 'pipe' - promises profound change. Services already on offer, such as financial services transaction and information kiosks, shopping on the Internet, or telephony over TV cable networks, provide unconnected clues to the impact which multimedia systems will have on the way we live.

It is now possible to gain a view of what life will be like when all the dots are joined up at Futurevision, an exhibition of a multimedia future set up in the north of England by Granada Television at its studios in Manchester.

The exhibition, in celebration of the company's first 40 years, looks forward to the year 2056. Despite being opened by the famed futurist Arthur C Clarke, Futurevision is not about predicting future technology. All the technology and services on show - flat screen televisions, virtual pets, home shopping, exist now.

What the exhibition reveals is what life will be like when these technologies are integrated, and common. "This isn't just a warehouse full of technology. It's designed to show ordinary people how multimedia will transform everyday activities such as shopping, learning and walking the dog," says David Stoves, business development manager for multimedia services at ICL, one of the main sponsors of the exhibition.

Visitors to Futurevision can 'virtually' try on clothes, relax in an 'electronically smart' home, savour the joys of interactive TV and anticipate the demise of classrooms as we know them today.

The 'virtual classroom' at Futurevision shows how, through the power of multimedia, students will be taught by specialists around the globe, who will not just be lecturing

by satellite, but also setting project work and answering questions. Classrooms will be linked, allowing students in different schools and countries to compare notes and work collaboratively. The virtual classroom shows how adults will be able to use technology to keep their skills up to date, and to learn new ones. The Futurevision piano has a small screen inset above the music stand from which an electronic tutor will supervise as you practise your scales.

As well as greater flexibility in learning, the reach of multimedia will increase flexibility on the 'where and when' of work. The mobile workplace demonstrates how multimedia will enable people to have exactly the same computing and communication facilities on the move as they do at a desk.

In the Electronic High Street, customised fashion shows give shoppers a view of how they will look in the articles they choose, removing the drawback of home clothes shopping. Cross-store price comparisons are also available.

Naturally, all payments are electronic, and if funds are short, the bank manager can be charmed via a video conference link.

As the creation of a television company, Futurevision naturally emphasises the effects that multimedia technology will have on broadcasting. Visitors can become par-

ticipants in the television show *Telly Addicts*, direct how they would like the plot to thicken in a crime saga of their choice, and sell shares and buy jeans via the wide, flat, high definition TV screen hanging like a picture, over the mantelpiece. "Initially, all this interaction is via a keyboard or a touch screen," says Mr Stoves. "But the aim is to update the exhibition as the technology becomes

available, and it will not be long before most of this equipment will respond to voice commands." Above all, Futurevision illustrates the way in which multimedia services will turn the home into fully wired-up sites for education, work, shopping and entertainment. It has also given participants food for thought on the joint business opportunities of multimedia.

Multimedia research • By George Black

# Pioneer projects

Among UK projects pioneering the introduction of multimedia to the world of education and entertainment is the Cambridge Cable Interactive Television trial. Meanwhile, a British Telecom trial is seeking to establish the potential market for multimedia services, based on interactive television.

The Cambridge trial, which began in 1994 and has no fixed date of conclusion, is being run by a consortium involving Cambridge Cable, ICL and Online Media (owned by Olivetti, through Acorn Computers).

It is only one of a number of big multimedia trials going on around the world, but is probably unique among them in its sharp focus on the convergence of technologies.

It uses fibre optic cables to the kerb and coaxial copper cable from there to the user. A two megabits per second ATM (asynchronous transfer mode) link enables images to be received in a few seconds. A group of 90 homes, ten schools and three businesses is being used to test what types of new multimedia services may be made available by cable. The trial's services manager, Alan Clarke, says the user group is not a basis for statistical conclusions but is "sufficient to bounce ideas and techniques off".

Participants have a choice of games, films, BBC and Open University TV and radio programmes, news, and documentaries, as well as a number of retail and business services. All of these can be accessed through a set-top box like a small video recorder. Later, the

Continued on facing page

## US initiative

Continued from previous page:

with Michael Milken, the former junk bond king, to form Educational Technologies, which will develop and market network computers to schools.

The huge growth of the Internet represents a great educational resource. For example, the Jason project (see previous page) allows students from around the world to follow the underwater explorations of a robotic submarine. Logging on to the Jason web site (<http://www.edc.com/jason/jeem10000.htm>), students can see videos of the underwater explorations, follow the work of science researchers and ask questions.

The Internet could potentially bring the world's best teachers to students and lower educational costs. And it underlines the fact that it is the application that is important, not the focus on technology.

# What real opportunities does the Internet present for your company? Cut through the hype with incisive analysis of the key issues and hard facts.....



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## Improving Retail Efficiency through EDI

Managing the supply chain by Mike Hendry  Tick Box  
Although only 2% of all retailers use electronic data interchange (EDI) they currently account for around 75% of all retail turnover in the sector. The number of users is forecast to treble by the year 2000. This report pinpoints the issues that need to be resolved by new users, service providers and the EDI community as a whole - including standards, technology, contracts and security - illustrating how EDI can bring competitive advantage.

December 1995: £275 UK; £295 Europe; £305/US\$488 ROW

## IT and the Future of Retail

The application of leading edge technology by Gary Herman  Tick Box  
Can high street stores develop effectively in response to emerging retail environments? How can retailers implement new technologies to gain competitive advantage?  
This report provides you with a realistic guide to the application of leading edge information and communications technologies in retail. Building on the best selling **Impact of IT in Retail**, it considers the costs, timescales and management issues arising from new media, in-store developments, new payment systems and leveraging information for competitive advantage.

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Contents include:

- SWOT analysis
- Payment systems and security implications
- Setting up your website
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Backed by the views of leading analysts and consultants, this report enables you to assess the extent and validity of your commitment to electronic commerce.

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How can retailers achieve greater cost efficiencies to enable greater expenditure on customer services initiatives?  
The supply chain provides many opportunities for retailers to reduce costs to support enhanced customer services and lower prices. As retailers are looking beyond traditional logistics boundaries into the domain of the manufacturer, manufacturers are looking at raw materials suppliers in the same way. New initiatives such as Efficient Consumer Response (ECR) are further blurring the divisions between retailers' and manufacturers' supply chains. This new report details the latest developments and discusses the critical issues that any company must evaluate when redefining supply chain dynamics, drawing directly from the experiences of industry leaders.

Case studies include:

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ATM technology and multimedia

■ ATM (Asynchronous Transfer Mode) technology By George Black

# Key to a high-speed future

While ATM offers rapid transmission for the multimedia networks of tomorrow, its application has met with delay

The IT industry has been getting excited about ATM because it can send data, voice and video together at very high speed.

When ATM was first demonstrated in 1983, information was transmitted at 45m bits a second. Today, the IT industry has pinned its hopes on ATM (Asynchronous Transfer Mode) because it by far outstrips X.25 and Frame Relay in wide area networks, as well as Ethernet and Token Ring in local area networks.

Its standard speed is 155 megabits per second and its potential exceeds two gigabits per second. Large amounts of money are therefore being invested in ATM pilot projects across the world.

Networks will need ATM because most of them, from those of the international telecommunications carriers to those within small companies, are under severe pressure. They are short of bandwidth for their fast-growing numbers of users and ever more complex applications.

The solution is a fast packet switching technology which offers bandwidth on demand. ATM is best able to deliver that, but it is still an emerging, not an established, technology.

This was widely expected to be the case in which it would reach maturity and capture a large share of the networking market, but analysts have been revising their over-enthusiastic forecasts.

□ The US market analyst Forrester Research now thinks that ATM will remain a niche technology in LANS for as much as ten years, during which Fast Ethernet and Ethernet Switching will remain the norm.

□ A survey by ATM equipment supplier Olivetti found many prospective users felt the lack of standards and of skills were serious obstacles to adoption.

□ A study last year by the Ovum consultancy found that telecom carriers were delaying implementation because they were worried about losing revenue from existing narrow

band services.

In the LAN arena, the recently emerged alternatives of Fast Ethernet and Ethernet Switching have proved more capable than expected and are delaying the move to ATM.

Fast Ethernet, at 100 Mbps ten times faster than Ethernet, can unlike ATM be installed without greatly changing the infrastructure. Ethernet Switching widens the Ethernet channel so that more information can be delivered at the same speed.

ATM is recognised by LAN systems suppliers as the best way for the long term, when those interim solutions become exhausted. Makers of LAN equipment such as routers, hubs and bridges are steadily incorporating more ATM capability into their new products. But at present the LAN market is still at the "early adopter" stage.

### Visualisation

"There are few applications as yet which require the power of ATM," says Mr Mike Pileham, research director for network designer Cray Communications. "People setting up pilot projects find it hard to think of useful things that ATM could do."

ATM is ideal to support multimedia applications which must have guaranteed communications, such as medical videoconferencing.

Mr Mark Phelan, European marketing manager for ATM equipment supplier Cascade Communications, notes: "It is applications, which require visualisation, which will drive ATM into the LAN, but there are not many of these at present."

The ATM Forum, which has won general admiration for its pro-active approach, has been driving standardisation as quickly as possible and is spawning new acronyms at an extraordinary rate.

But, with a membership of around 500 companies, it is running into difficulties, both technical and political.

Considering that ISDN (Integrated Services Digital Network) took well over 20 years to achieve success as a public telephony system, it is not surprising that ATM has fallen slightly behind its promoters' hopes. It is, after all, only 15 years old.

Mr Paul Trowbridge, European product marketing manager for LAN equipment vendor Bay Networks, says that standards created by the Forum in the past few months will help

to stimulate the adoption of ATM as a LAN backbone.

He sees the establishment of a LAN emulation standard as especially significant. The Forum's User Network Interface (UNI) is gaining acceptance. The next steps will be to lay down the Multi-Protocol Over ATM (MPOA) and the Private Network to Network Interface (PNNI) standards.

### Forecast

However, Mr Trowbridge concedes that, in spite of this encouraging progress, ATM will probably not reach the desktop for five to seven years.

In wide area networks (WANs), the prospects for ATM are similar, good, but it will take time. Competition for the established carriers from new entrants such as cable operators is increasing and is forcing them to look at ATM as a competitive weapon.

"The carriers are no longer an obstacle to the spread of ATM," says Mr Ken Davison, vice-president of marketing for Newbridge Networks, an ATM equipment supplier to the carriers.

European carriers, led by Telecom Finland and in the UK Energis, are starting to deploy ATM in their networks and



Faster communications: ATM technology allows data, voice and video to be transmitted at very high speed

offer services based on it. They are investing in it in the hope of saving money in the long term, as it should be a cheaper vehicle for delivering services than X.25 or Frame Relay.

Some of them plan to move their current services, including those based on the fast packet SMDS (switched multi-megabit data service) and Frame Relay systems, on to an ATM core.

"The carriers can use ATM to consolidate their services on to a single infrastructure," says Mr Mark Phelan of Cas-

cade. However, in the US, carriers are mainly adopting ATM for new services rather than for transferring existing services on to it.

The current wave of mergers and alliances among the carriers is likely to speed up the adoption of ATM, according to Mr Davison of Newbridge. He says they will all need ATM in order to be able to offer faster and more powerful international networks. But at present the carriers are still proceeding rather cautiously with their experiments. As Mr Pileham of

Cray points out, "no-one has yet built a large enough ATM network to be sure it works. There is still a lot to be learnt".

The massive growth of the Internet could prove a crucial factor in accelerating the spread of ATM.

Internet service providers are now in the process of installing ATM switches to cope with the fast-rising volume of traffic.

"The Internet is potentially the 'killer application' of ATM that people have been looking for," says Mr Phelan.

■ Business application By George Black

## Scottish Power plans a large ATM network

The company hopes it will improve the response to customer inquiries by having a mass of information available at the operators' fingertips

Scottish Power is building one of the largest ATM networks in the UK at its Glasgow head office.

The company is the sole supplier of gas and electricity to southern Scotland and, through its recent acquisition of Manweb, now an energy supplier to Merseyside, Cheshire and North Wales. It is also a new entrant into telecommunications.

It is installing an ATM network for 1,700 users in three buildings at a cost of around £1m, based on switching equipment from 3Com.

The new network is part of a move from ICL and IBM mainframes to a client/server, distributed systems environment, which is being undertaken to help the business cope with rapid change and expansion.

### Inquiries

In April, a new customer service centre in Glasgow started to take over handling telephone inquiries from 1.7m customers.

This service involves highly graphical applications. Helpdesk operators can call down to their computer screens images of gas and electricity meters, credit cards or domestic appliances such as washing machines, to help them deal with customers' inquiries. Later this year they will also have access to images of customers' correspondence.

It was realised that these new systems would demand huge communications power and compel replacement of

local area networks using conventional Ethernet structure.

The company therefore invited suppliers to bid for either an ATM or an FDDI (fibre distributed data interface) solution. FDDI is a token ring structure network running at 100 MBps, compared to ATM's 155 MBps. Mr Justin Leese, the company's network manager, says they knew that ATM was more powerful than FDDI but were not sure it was ready for the task. They were surprised that around a third of the 24 bidders insisted it was mature enough.

The solution chosen was an ATM-based bid by Workplace Technologies, a service company formed by a management buyout from ICL, the computer company.

Because of the risk, Scottish Power insisted that the equipment should all come from a single manufacturer to minimise compatibility problems.

It also laid down that there should be a fallback FDDI option, paid for by the supplier, in case ATM failed to meet the requirement.

The ATM switches will provide bandwidth-on-demand, or variable amounts of connection according to the volume of calls. Scottish Power hopes the new network will enhance its response to customer inquiries by having a mass of information available at the operators' fingertips. The network is designed to be easily expandable as the business grows.

German researchers move to ATM: see report, next page

■ Research projects

## Services on trial

Continued from facing page:

trial may adopt keyboards with infra-red communications to the television.

Services for users are constantly changing. In April they were offered access to the Internet through their TV sets. Mr Clarke says the project managers increasingly regard the Internet, its subset the World Wide Web and interactive television as "parts of the same continuum".

Users are being offered Web browser tools as a front-end to interactive television to enable them to download whatever entertainment or information they choose. They are also being offered links between teletext pages and the Web at the touch of a button.

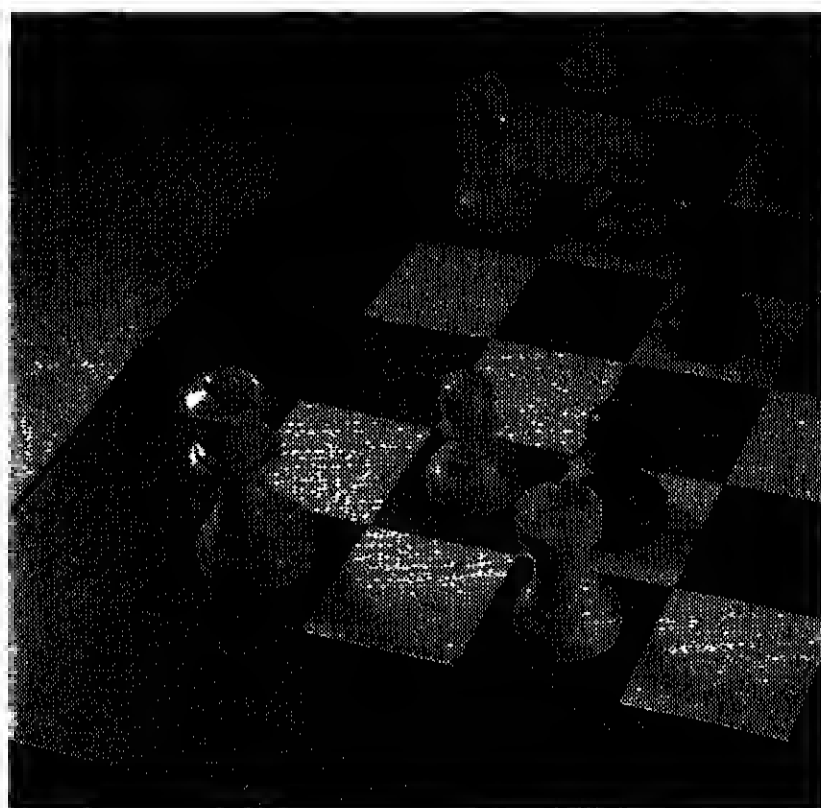
NOP Research Group has been recruited to the venture to assess the users' attitudes to the services available. Mr Clarke says it is very difficult to predict from the trial what sort of education and entertainment services will be viable because the technology is changing so fast. But he is confident that the experiment will help the participant companies to position themselves more effectively in the emerging market.

Another significant trial - being run by BT - provides several contrasts. It also uses ATM transmission but adopts the already installed twisted-pair copper phone lines. It is delivering services to users at two megabits a second via the ADSL (asymmetric digital subscriber loop) transmission system, which it says has proved "very robust".

BT reckons that its trial has offered the widest range of services of any such project worldwide. Around 2,000 homes and eight schools in Colchester and Ipswich, chosen to provide a representative sample, have been involved in the project, which was scheduled to finish at the end of June.

In this trial, the services have remained constant, the technology having been tested in 1994; users have been charged and prices have varied to assess their willingness to pay. BT will be studying the results this summer before making a decision on what services may be commercially viable. Analysts do not expect the general roll-out of these types of services to begin until at least 1998 and it will probably not become a substantial market until after 2000.

# Several Moves Ahead



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World IT Congress • Report from Geoffrey Naim in Bilbao, Spain

# IT companies in mid-life crisis

### More casualties are likely as traditional IT companies battle against the new denizens of cyberspace

Do today's IT companies have a future? It is not a question the industry often considers, but this year's IT World Congress, held last month in Bilbao, Spain, caught many companies in uncharacteristically pessimistic mood.

The Internet is largely to blame for this mid-life crisis. Two years ago, when the last World Congress was held, the Net was an exciting new business opportunity. Today, it poses a real threat to many companies. Established software businesses see young upstarts achieve overnight success by offering free software on the Net. The traditional broad-based IT vendors fear many of their existing products and services will soon become obsolete.

Telecommunications companies could lose large chunks of their lucrative long distance voice traffic to Internet phone technology. For Nicholas Negroponis, IT guru and director of the Massachusetts Institute of Technology's Media Lab, this is just the beginning and the financial services sector could be next to succumb.

"In the next six months, we will see a lot more attention being paid to digital money," he told 1,200 delegates during his keynote speech at the Con-

gress. In two to three years, he predicts, huge amounts of money could be circulating on the Net that have no connection with governments' monetary systems. Peter Cunningham, president of the US market research firm Input, estimates 3 per cent of large banks currently do business on the Net. "But their use is currently very passive, such as supplying information on products," he said.

By 2000, he predicts more than 90 per cent of the big banks will be using the Net for electronic commerce.

Jose Fonollosa, general manager of BBV, one of Spain's largest and most innovative banks, does not see retail banks disappearing overnight, although he takes the threat seriously.

"The problem is not the Internet, but the capacity of banks to understand their own customers. In most countries, going to the bank is like going to the dentist," he says.

Fonollosa believes conventional bricks-and-mortar banks can compete with virtual banking by using IT to improve customer service and reduce the costs of their branch networks. In ten years, BBV has cut the number of staff in back office

functions from 25 per cent to 6 per cent of its workforce. That banks still have a future was welcome news for many in the Congress audience.

IT companies depend heavily on the financial sector and make handsome profits by encouraging banks to spend ever more money in a seemingly endless process of technological innovation. The benefits of this investment are often elusive - one anonymous IT director of a bank has called the extensive computerisation of banks in the 1970s and 1980s "the biggest bank robbery of all time".

Even information technologies companies admit that their users in the financial sector have not been well-served. "We commonly see that users are extremely frustrated with their IT investments," says Robert Gogel, vice president of the financial services division of Siemens Nixdorf.

The latest technology to disappoint is client/server computing. Five years ago, banks and other users of mainframe computers were encouraged to scrap the "big iron" and downsize to decentralised systems based on the client/server architecture which, suppliers claimed, made applications cheaper and quicker to develop.

The reality is somewhat different, as Rosemary O'Mahoney, managing partner of Andersen Consulting, told delegates at a Congress session dedicated to this theme.

"Early expectations that client/server applications would be cheaper have turned out to not be well founded," she said.

The reason lies in the high cost of creating a support infrastructure to service the myriad machines and applications scattered through an organisation. Data warehousing has replaced client/server computing as the industry's favourite buzz phrase and it featured heavily in the presentations of leading vendors.

Jose Luis Solis, chairman of NCR for Europe, Middle East and Africa, presented data warehousing as a technology



Nicholas Negroponis, IT guru told predictions on financial services and the use of digital money

that "enables a paradigm shift to the age of the consumer". Nevertheless, it was the Internet that grabbed most attention at the Congress and, in particular, its graphical section, the World Wide Web, which levels the IT industry's playing field by allowing any company, large or small, to mount a "shop window" and compete in cyberspace.

Mike Zisman, executive vice president and chief executive of Lotus Development, said: "There has been nothing in the past 40 years that has transformed as much as the Web."

Lotus knows only too well about the Internet threat. In 1985, the company faced technical obsolescence and commercial oblivion as it suddenly realised it could not afford the cost of converting its proprietary Notes product to work over the Net. To fund the new development programme, it agreed to be acquired by IBM.

At the World IT Congress, Nicholas Negroponis said many IT companies had not yet grasped the revolutionary nature of the Internet because their middle-aged leaders are "less Net-aware than the average American 13-year-old".

While these "digital homeless" remain in charge, more casualties are likely as traditional IT companies battle against the new denizens of cyberspace.

Profile: European Commissioner Martin Bangemann • By Geoffrey Naim

# Pace-setter on the infobahn

### The IT industry is often accused by its customers of promising much and delivering little. Martin Bangemann's job, as the European Commissioner for Information Technology, is to ensure that Europe is not similarly short-changed by the digital revolution



Martin Bangemann applying the 'carrot and stick' approach

Building an information society is one of the greatest challenges facing Europe in the next few years, according to Martin Bangemann, but the transition will not be easy and the scale and speed of change threaten to catch many unprepared.

"IT is bringing about a new industrial revolution and we want to make people aware not only of the change going on, but also give them a sense of urgency," he says. The increasing globalisation of jobs and industries means Europe must act quickly to restructure its declining industries and improve competitiveness in IT and services.

"A culture that isolates itself from other countries will be dead in a short time. Jobs will get lost, but these jobs are already unproductive, and soon they will be replaced by new jobs," he says.

Bangemann has been a member of the European Commission since 1988, and since 1993 he has looked after industrial affairs and "DGXIII", the EC directorate that embraces telecommunications, the information market and research exploitation.

He is perhaps best known for the 1994 Bangemann report, which attempts to explain where Europe has gone wrong in IT. The report rejects using public money to fund the digital revolution and instead puts its faith firmly in market forces. It calls for faster telecommunications deregulation and proposes specific projects to stimulate demand and give the information society critical mass.

The report became a refer-

ence point for the industry and spawned a host of similar initiatives, most notably the Group of Seven Ministerial Conference on IT in 1995.

Bangemann recently installed an Information Society Project Office in Brussels to explain to a sceptical European public what the digital era will mean for them. One of his pet projects is the Bangemann Challenge - a sort of *Jour sans Frontières* for the digital age - in which European cities compete for the title of Europe's foremost IT city.

The DGXIII portfolio is highly technical, but Bangemann - who trained as a lawyer and has spent 20 years in German and European politics - is not the typical Brussels technocrat. He prefers to talk about the political and sociological problems of new technology rather than regulations and technical standards.

### Healthy sceptic

"The most difficult thing to do is for a non-expert to give a speech to experts," he admitted to an audience of 1,200 industry figures at the IT World Congress, held last month in Bilbao, Spain. He has a healthy scepticism about the digital revolution and knows that "new" does not necessarily mean "better".

"Take information highways: highways should be faster and more efficient than small roads, but European motorists, especially Germans, know that is not always true," he says. Nevertheless, "infobahns" are the key to dragging Europe into the digital age and the re-

ason why the EC is so keen to liberalise Europe's telecoms market. Brussels can fund only a token amount of the Ecu 250bn required to build Europe's high-speed infrastructure, so the lion's share will have to come from the telephone companies.

Must will be privatised by 1998 and, with predators and shareholders watching, reluctant to bankroll the EC's dream of a universal wideband infrastructure. So Bangemann has to apply 'carrot and stick' in liberal dollops. The carrot is the hundreds of EC-funded R&D projects in areas such as teleworking or health care networks that aim to stimulate real demand for wideband services. The stick is the raft of directives that since 1990 have prised open the more lucrative segments of the telecoms market and exposed the monopoly carriers to competition.

The experience has been traumatic and led to frequent clashes between Brussels and the state-owned monopolies. There are growing calls for the EC to "stop the clock" before pushing ahead with further painful reforms. Last month, Spain hinted that it might renege on its earlier undertaking to respect the 1998 deadline for full telecommunications liberalisation.

Bangemann is well aware of the industry's complaints but believes liberalisation cannot be postponed - "competition will be bitter in those situations where telecommunications were dominated by a monopoly, but telephone companies have to abide by the EC directives".

Even with his lawyer background, drafting and interpreting those directives is a legal minefield, and Bangemann favours setting up a separate European regulator to handle the increasing complexity of EC telecoms legislation. "We are not pressing too hard, as some member-states have problems [with this proposal], but we will get one," he says.

Bangemann believes mergers are inevitable if Europe is to improve the competitiveness of its IT sector and warns against

a "Fortress Europe" mentality to protect weak industries. European intransigence was widely blamed for the US walking away from the latest round of World Trade Organisation-sponsored telecom liberalisation talks in April.

"I was deeply disappointed with the breakdown," says Bangemann, who remains optimistic that an agreement can be struck before the revised deadline of February 1997.

As the countdown to liberalisation ticks away, Bangemann is working to ensure the new technologies will be relevant, and accessible to all - "one of our biggest fears is [creating] a society with a new separation between 'haves' and 'have nots'," he says.

### Big contrasts

The two-tier information society already exists. IT investment in Denmark was Ecu 824 per capita in 1986 against just Ecu 47 in Greece. Bangemann knows that it will be difficult to close this gap, but he believes the Internet and broadband technologies can fundamentally change the relationship between commerce and industry, improving the attractiveness of remote areas and regions in decline.

To illustrate this point, Bangemann quotes the example of Finland: "It's a small country, structured in a very difficult way, but it has built an advanced telecommunications infrastructure."

Finland has exploited this technological advantage to become an important node on the Internet. More notoriously, it has a thriving cottage industry of Internet remailers, which allow users in anonymously post child pornography and Nazi propaganda on the Net.

The issue of Internet censorship is complex and controversial, particularly in Europe where attitudes vary from country to country, but the EC is now looking actively at how it might police the Net.

"We do not want to over-act, but I do not believe that self-regulation will necessarily work," says Bangemann.

### Topics in the next FT-IT Review

There will be no IT Review in August, but the September 4 issue will include the following main themes:

- Focus on Computers in Finance.
- IT Directions: Systems Support and Security.
- Software: Accounting Packages.
- International focus: Singapore.
- For more details of the September and October reviews, see details of the Fax-U-Back service, on page two of this current issue.
- E-mail editorial inquiries: tamsin.baumann@FT.Com
- FT on the Internet: http://www.FT.Com

Case study • By George Black

# German researchers move to ATM

The German Research Network - *Deutsche Forschungs Netz* - centred in Berlin and serving the country's universities, colleges and research institutes, is migrating to ATM technology.

In a project run by Deutsche Telekom and its subsidiary DeTeSystem, the network is moving to ATM from X.25 technology and removing leased lines.

DeTeSystem launched the ATM network, which uses General DataComm switches, at the CeBit exhibition in Hannover in March.

The network's deputy technical director, Mr Martin Wilhelm, says they concluded after a study that ATM was the best fit to their requirements for a broadband technology for the next three to five years.

"It gives us the possibility of dedicated bandwidth," he says. The existing network, which uses the TCP/IP protocols (Transmission control protocol/Internet protocol), does not allow bandwidth to be dedicated to specific applications.

This can cause problems for applications such as videoconferencing, when voice and video are sent together.

"The net is not as adaptive as the eye and it is very disturbing to the concentration to listen to bad audio," says Mr Wilhelm. The alternative Frame Relay technology was ruled out as too slow. "We

must get up to 155 megabits per second as soon as possible," says Mr Wilhelm.

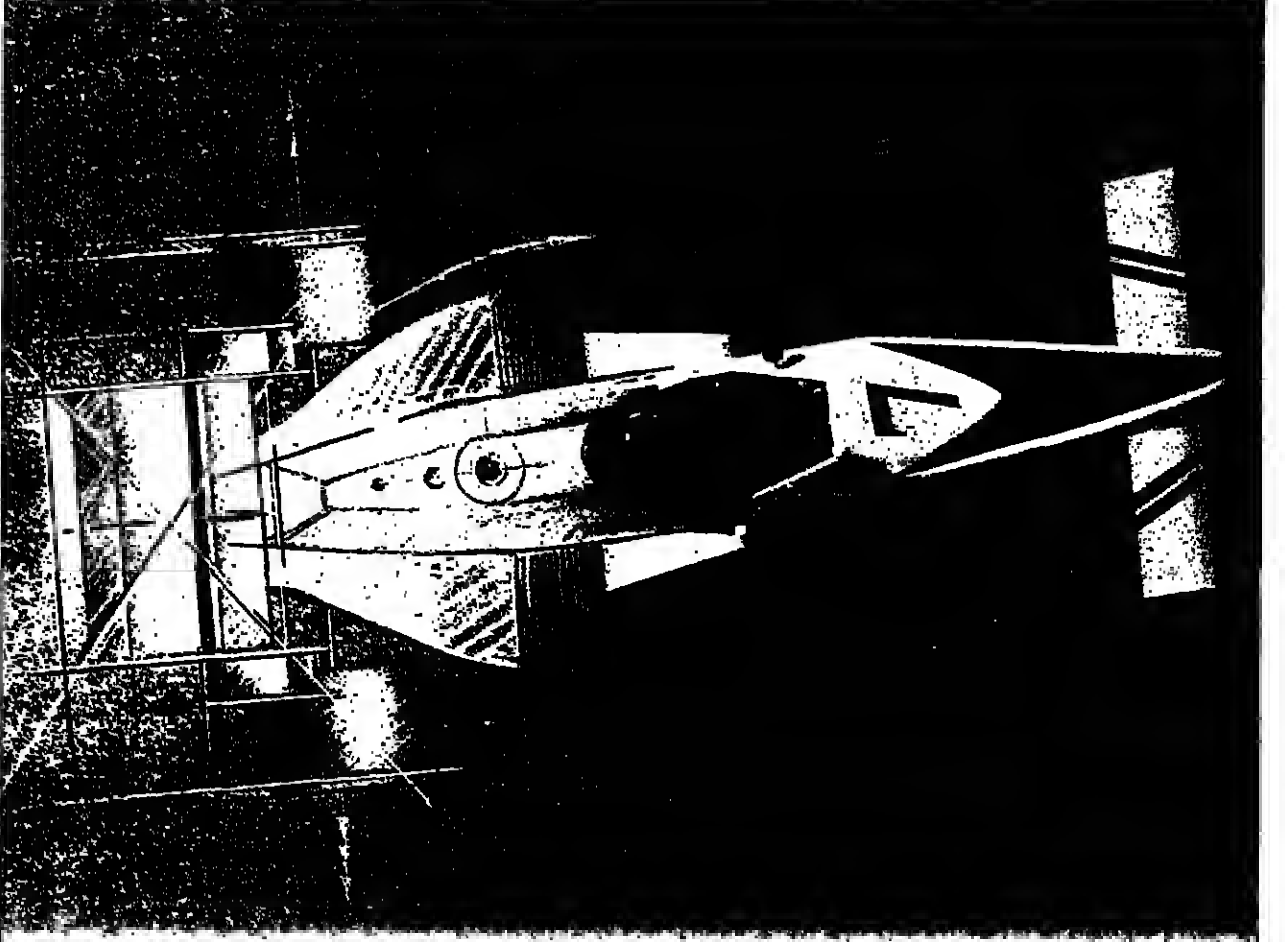
The new ATM network will be integrated with the existing X.25 network by early next year. This will allow the elimination of many leased lines and thereby save money, it is hoped.

Of the 400 sites on the X.25 network, most of the larger ones will move over to ATM. It is expected that 60 sites will be on the ATM network by the end of this year. In the long term it is expected there will be links to research enterprises across the world.

German research groups will not be able to afford to replace their current equipment with ATM equipment all at once, so there is likely to be a lot of TCP/IP traffic on the network for several years.

Delivery of ATM to the researchers depends on the availability of compatible ATM switches. Mr Wilhelm hopes a standard will emerge this year to enable the network to invest in new equipment and make services available to users next year. Many potential uses, ranging from meteorology to museums, are "just waiting for the communications to arrive".

As Mr Wilhelm adds: "If we offer a resource, people will find uses for it that we have not even thought of. We can only guess what they will be. It may grow like the Internet."



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**Geographical Coverage:** 36 offices worldwide

**Applications:** Finance, Distribution & Process manufacturing  
**Cost:** £100k - £1M

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**Geographical Coverage:** Worldwide

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**Hardware:** AS/400  
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**Geographical Coverage:** International

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**Applications:** Strategic Messaging Solutions  
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**Applications:** Various  
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**Geographical Coverage:** International - office worldwide

**Applications:** Voice and information processing

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The 45,000 BTU/h fits unobtrusively into any false ceiling and features knock out panels that can provide fresh or recycled air to even the furthest corners of a building. This means that additional rooms may be linked to the system. It also features a 3 phase operation with reverse cycle heating options.

But the 45,000 BTU/h is just one of a wide range of air conditioners from Fujitsu. As well as cassette units they include floor standing and wall, window or ceiling mounted models, all of them neat, unobtrusive and stylish. They feature a whole host of technological innovations such as infra-red remote controls, a super quiet action and a unique multi-directional air flow adjustment system which ensures an even distribution of air in every direction. There is also a choice between units which supply cool air and those which offer both cooling and heating options.

If you'd like to know just how much of breeze it is to get fresh air indoors, telephone 01707 272841, Fax 01707 273111 or write to the address above.



**9 Softworld In Accounting & Mgmt**

1-2 October 1996, NEC, Birmingham  
Tel: 0181 541 4395 Fax: 0181 974 6168  
E-mail: softworld@softinfo.com

Softworld in Accounting & Management Executive Systems is the definitive event for senior financial and business executives looking for accounting and reporting software. Organised in association with The Financial Times and supported by the Institute of Chartered Accountants and BASCA, the event comprises a comprehensive programme of product demonstrations, special seminars on related topics and a highly focused exhibition, together with the industry's leading Directory of accounting applications.



**10 DataScan Limited**

Unit 18 Rumer Hill Business Estate, Rumer Hill Road, Cannock, Staffs W611 3ET  
Tel: 01543 462 970 Fax: 01543 462 590

**Company Description**  
Problem finding paper files or documents? DATASCAN has the answer! Paper, A4 and Microfilm Scanning (A4-A0) Image Enhancement and Index - FastScan - Vector Conversions - CAD Drawing and Plotting Services - CD Authoring - Document Management Consultancy - Software and Hardware Sales and Service - ON-SITE Service a Speciality

**Hardware/Compatibility:** Images available in all Formats

**Geographical Coverage:** Nationwide

**Applications:** All Document Management and CAD Applications

**Costs:** Prices from as little as 4p per page

**15 NSC - A Storage-Tek Company**

Storage Tek House, Woking Business Park, Albert Drive, Woking GU21 5JY  
Tel: 01483 727331 Fax: 01483 727089

NSC, a Storage Tek company is a leading supplier of enterprise-wide data security products which address:

- External threats to data security from hackers or internet espionage.
- Internal threats to data privacy.
- Security of dispersed data and data centre data.
- Secure VPN, Closed User Groups and enterprise data backup.

**Hardware/Compatibility:**  
Compatible with all popular WAN, LAN and cable types

**Geographical Coverage:** Worldwide

**Applications:** Data Security applications



**16 ONEAC Ltd**

6 Eynon Way, Abingdon, Oxon OX14 1TR  
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900 sites lost in one night due to lightning. Can you afford not to protect your sensitive Electronic Equipment from Power and Energy related problems.

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**18 Baan UK Ltd**

Baan House, Deanway Technology Centre, Wimslow Rd, Handforth, Cheshire SK9 3EY  
Tel: 01625 523550 Fax: 01625 523033 E-Mail: sales@baan.co.uk

Baan is a leading provider of open systems, client server based enterprise business applications used by organisations worldwide to manage company resources and co-ordinate enterprise wide functions such as sales forecasting, inventory control, procurement, distribution, transportation, finance and project management. The Baan software family is designed for rapid implementation, easy adaptation and reconfiguration in response to changing organisational needs and technological advances. Currently more than 1,000 customers are using Baan software to manage and re-engineer their businesses around the world. Customers include Boeing, Mercedes Benz, Philips, GEC, Remploy, Crown, Snap-On Tools, Northern Telecom, Honda. Baan employs more than 1,500 people in 59 countries worldwide.

**Hardware/Compatibility:** UNIX, Windows 95, Windows NT 3.5, HP, IBM, Bull, SUN and other open systems products. Databases supported include: Oracle, Informix, Ingres.

**Applications:** Baan software is designed for mixed manufacturing environments including make to stock, assemble to order, make to order and engineer to order. Baan's latest release, Baan IV, sees the support of process manufacturing covering such functions as: co and by products, yield, assayed items, shelf life, formula management and quality management. Fully integrated with Baan IV is Dynamic Enterprise Modeller. This tool supports the modelling of a customer's business processes and operations including activity mapping. Once defined Baan software automatically configures itself to a customer's business operations. Dynamic Enterprise Modeller underpins Baan's implementation approach in ensuring systems are installed within time scales which ensure you obtain a rapid business return on your investment. A number of Baan's implementation partners such as KPMG, Ernst & Young and Origin are actively engaged in developing a comprehensive library of business model templates. Such templates cover aerospace and defence, automotive, food and beverage and large projects based/construction industries.



**25 Microvitec Multimedia**

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Email: mummvtd@microvitec.co.uk

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- Product/Systems Maintenance



**30 SoftDev & WebDev**

November 27-28th 1996  
Olympia 2, Kensington, London

SoftDev and WebDev are two highly informative events covering the key stages in the product development life cycle. SoftDev encompasses the range of products and services required for the development of corporate systems and applications. WebDev focuses on the emerging software products and development tools for corporate intranets, the internet and the World Wide Web. Both events include an extensive programme of features including the Financial Times Indian Software Development Pavilion, the Annual DSDM European Exhibition and Conference, the Intranet'96 Conference and the third annual Developers Challenge.

To pre-register for both events free of charge, contact Interactive Exhibitions Ltd: Tel: 0181 841 4894 Fax: 0181 974 6188 E-mail: softworld@softinfo.com



**11 Lincoln Software Limited**

Marborough Court, Pickford Street, Macosfield, Cheshire SK11 6JD  
Tel: 01625 816722 Fax: 01625 816780  
E-mail: info@lpsys.co.uk  
Web: http://www.lpsys.com

Lincoln Software produce a range of Meta-CASE and CASE tools for large scale three-tier client/server application development. Our Object IE product is an object oriented, full life cycle tool which includes full C++ Code Generation and Database Generation for Oracle, Sybase and Informix. Our tools bridge the gap between business requirements and IT.

**Hardware/Compatibility:** Open VMS/Solaris/Sun OS/HP/UX/AD/Microsoft Windows

**Geographical Coverage:** worldwide

**Applications:** IPSYS Toolbuilder, Object IE, HOOD, SSADM

**12 Lawson Software**

Capital Place, 120 Bath Road, Hayes, Middlesex UB9 5AA  
Tel: 0181 754 8470 Fax: 0181 754 7788  
E-mail: c.j.p@lawson.co.uk

**Company Description**  
Lawson Software offers robust, client/server applications with proven business benefits for companies worldwide. Lawson has 20 years of experience in developing business applications, with high-end, corporate functionality. Combining that experience, with a unique underlying development technology strategy, Lawson offers future proof solutions - offering both high-end functionality and openness and integration to the newest technologies.

**Hardware:** AS/400, RS6000, HP9000, DEC Alpha, Sun, Sequant, U6000

**Applications:** Accounting, Distribution Management, Materials Management, Lawson Tools and Open Enterprise Desktop.

**Coverage:** FT 2000



**21 Perwill - EDI**

PERWILL-EDI, an award winning Electronic Commerce Solution installed in over 60 countries on 6 continents, is available from its authors in the UK.

For full details of the Perwill range of products, (that run on over thirty different Operating Systems), training and Consultancy services please contact:

Perwill, 13a Market Square, Alton, Hampshire GU34 1UK, United Kingdom  
Tel: +44(0) 1420 545000  
Fax: +44(0) 1420 545001



**26 ON Technology UK Ltd**

15-17 Liverpool Road, Slough, Uxbridge, Middx UB9 1RN  
Tel: 01753 673220 Fax: 01753 873378

ON Technology is a leading provider of multi-platform communications and network management software. With a turnover in excess of \$44M, ON develops, markets and supports products that answer proven user needs, including group scheduling, software metering, server auditing, e-mail, IP address management and high speed network text searching. At Networks '96 at the NEC in Birmingham, ON launched their new Internet firewall, ON Guard which supports stateful multi-layered inspection.



**31 Plasmon Data Limited**

Whiting Way, Mableton, Herts SG8 6EN  
Tel: +44 1783 262283 Fax: +44 1783 264444  
E-mail: sales@plasmon.co.uk

Plasmon manufactures and supplies a wide range of optical storage solutions including media and software. The range includes CD Recorders, low cost PD 650MB rewritable drives and MO drives with capacities of 2.8Gbytes. The industry's widest range of jukeboxes are available with capacities from 45 to over 670 Gbytes. Software options enable seamless integration of these products into most operating systems requiring additional capacity for storage extensions, HSM, backup, archiving, and CD publication.

**Hardware/Compatibility:** Prices range from £399 for PD drives, £285 for CD Recorders, and up to £34,000 for top of range jukebox products.

**Geographical Coverage:** Offices worldwide servicing most countries either directly or via strategic partners.

**12 Lawson Software**

Capital Place, 120 Bath Road, Hayes, Middlesex UB9 5AA  
Tel: 0181 754 8470 Fax: 0181 754 7788  
E-mail: c.j.p@lawson.co.uk

**Company Description**  
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**Hardware:** AS/400, RS6000, HP9000, DEC Alpha, Sun, Sequant, U6000

**Applications:** Accounting, Distribution Management, Materials Management, Lawson Tools and Open Enterprise Desktop.

**Coverage:** FT 2000



**17 DK Multimedia**

9 Henrietta Street, Covent Garden, London WC2E 8PS  
Tel: 0171 8365411 Fax: 0171 7537575  
http://www.dk.com

DK Multimedia is a leading developer and publisher of high quality, award-winning education and reference CD-ROMs for all ages. Acclaimed new releases include My First Amazing World Explorer CD-ROM Activity Pack (includes CD-ROM, books, jigsaw and much more), and EyesWitness Encyclopedia of Space and the Universe.

**Hardware/Compatibility:** Windows and Macintosh CD-ROM

**Geographical Coverage:** Worldwide



**22 Geac Computers Limited**

Hollywood Tower, Hollywood Lane, Critch Causeway, Bristol BS10 7TW  
Tel: 0117 9509003 Fax: 0117 9590718

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- 24 hours on-line availability - Worldwide
- Supports agency and/or proprietary data formats
- Automatically recognises match exceptions
- Creates investigations cases
- Reconciles holdings or transactions
- Comprehensive MIS

**Hardware:** UNIX or NT, HP, IBM RS6000, SUN, Sybase, SQL server, Oracle, Ingres

**Geographical Coverage:** UK, Europe, Far East, Australia, North America

**Applications:** Geac WINNAR

Cost Priced on a per concurrent user basis

**27 Anixter Distribution**

Anixter House, 1 York Road, Uxbridge, Middx UB9 1RN  
Tel: 01895 818181 Fax: 01895 818190

Anixter Distribution is one of the world's largest distributors for networking systems, supported by the world's leading manufacturers of networking and cabling systems. With over 25 locations throughout Europe and large strategically placed warehouses, Anixter has a second to none logistics capability. With a turnover in excess of £1.5 Billion, Anixter has a proven track record in growing business for our vendors and resellers.

**Hardware/Compatibility:** Networking products and structured cabling systems. Supply products from Bay Networks, Digital, IBM, 3COM, Lucent Technologies and more.

**Geographical Coverage:** Global



**32 Heroix Corporation Ltd**

Yeomans Court, Ware Road, Hemford SG13 7HJ, England  
Tel: +44 (0) 1982 500006 Fax: 01982 500005

**Company Description**  
Can you reduce the cost of managing your systems and provide users with better service and increased productivity levels? RoboMan can. This powerful software solution detects and automatically formulates the correct solutions to system problems. Heroix Corporation is a well established company with a proven history in system management services and solutions for VMS, UNIX-DEC, HP, IBM, SUN & Windows NT.

**Geographical Coverage:** Worldwide

**Users:** Include 16 of the Times Top 30 Companies.



**13 CJP Training Products**

Russell House, 137-139 High Street, Guildford, Surrey GU1 3AD  
Tel: 01483 454888 Fax: 01483 454356  
E-mail: c.j.p@cjpt.com

C.J.P. are producers of customisable, high quality, I.T. courseware which is licensed for unrestricted use and delivered in an electronic format. Licence holders are also eligible for courseware updates. The courseware portfolio covers leading applications software titles (Microsoft, Lotus, Borland, WordPerfect etc.). Each courseware title itself consists of trainer, trainee and tutorial materials. Additionally C.J.P. are an IBM Business Associate for N.V.Q. self assessment CD-Rom products.

**Geographical Coverage:** United Kingdom. Distribution partners sought for most areas of the world



**14 BATM UK Limited**

1 City Business Centre, Chichester, W. Sussex, PO19 2DU  
Tel: 01243 539735 Fax: 01243 539625  
E-mail: cjb75@cityscape.co.uk

**Company Description**  
BATM is a world leading designer and manufacturer of approved connectivity equipment, supplying not only ATM product sets but also Ethernet, Token Ring AS/400 and structured wiring solutions.

**Hardware:** AS/400, Token Ring, Ethernet, ATM 155, ATM 622, Sonet 155N

**Coverage:** UK and International



**23 Lorien Plc**

Web: http://www.lorien.co.uk  
Email: london@lorien.co.uk  
Tel: 0171 3517414/0800 Lorien  
Fax: 0171 3512404

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- Resources - Supply of IT Contract & Permanent Staff
- Supply of Engineering and Cabling services
- Training - NVO and C&G Qualifications
- Supply of Training Personnel
- Provision of Bespoke Solutions

**Hardware/Compatibility:** All mainframe, client-server and PC network systems

**Geographical Coverage:** United Kingdom and Europe



**28 CSI (Consulting Services for Industry)**

Canal Place, Leeds LS12 2DU  
Tel: 0343 010105 Fax: 0113 243 8050

CSI Outsourcing specialise in providing high quality, fully managed systems for companies using IBM midrange equipment for key business applications. Service levels to systems users are guaranteed. Services can be based on customer's site or at a CSI location and provided 24 hrs 365 days a year.

**Hardware/Compatibility:** AS/400 Ops, Applications, Tech support, LANs, WANs, Desk-top

**Geographical Coverage:** Service from Datacentre in Nottingham and eight other UK locations

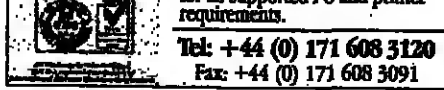


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**Bentley Systems UK Ltd**

L'Avenir, Opladen Way, Braconell, Berkshire RG12 0PF  
Tel: 01344 412233 Fax: 01344 412388

Bentley Systems, Inc. is a worldwide leader in engineering software products, user services, and overall quality. Bentley now serves over 220,000 professionals in building engineering, GeoEngineering, and mechanical engineering. Founded in 1984, Bentley has become one of the world's fastest growing software companies.

**Geographical Coverage:** UK and Ireland

**Applications:** Applications in all major disciplines.



**23 Lorien Plc**

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- Supply of Training Personnel
- Provision of Bespoke Solutions

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To pre-register for both events free of charge, contact Interactive Exhibitions Ltd: Tel: 0181 841 4894 Fax: 0181 974 6188 E-mail: softworld@softinfo.com



Handwritten signature or stamp at the bottom of the page.



Software

Internet software • By Louise Kehoe in San Francisco

# A rush for market dominance

"The Internet is a fantastic thing," says Bill Gates of Microsoft, the software giant. "It makes software and computers more relevant to what is happening in the world. There is something going on here that is very deep..."

Bill Gates, chairman and chief executive of Microsoft, has become one of the leading advocates of Internet software. His enthusiasm is matched only by his determination to achieve leadership in what is expected to be the fastest growing segment of the software market. Microsoft's ambitions are, however, being hotly challenged by a host of new software ventures led by Netscape Communications which has captured an early lead in browsers - the programs used to navigate the World Wide Web and the most visible segment of the Internet software market.

Microsoft has launched a fuselage of products, initiatives and acquisitions all aimed at claiming leadership in Internet software. Central to this "right back" is Internet Explorer, the Microsoft Web browser, which it is making available free of charge via the Internet. Through agreements with leading online information services and Internet access providers that will offer their subscribers Explorer software, Microsoft is quickly gaining on Netscape. Moreover, later this summer, Microsoft will introduce an upgraded version of Internet Explorer that is expected to match all of the features of Netscape's Navigator program. But the "battle of the browsers" is just the beginning - see report, below. These programs are quickly becoming the universal "user interface"

for personal computing and thus become a challenge to Microsoft's core PC operating system business. Already, Netscape has described ambitious plans to transform its Navigator software into a complete PC operating system. Microsoft, meanwhile, has demonstrated a new version of Windows that incorporates a "browser" front end. "The priority for us is Windows and making sure that Windows is the best Internet platform," says Mr Gates. "Netscape is taking a browser and growing it into an operating system. We are taking an operating system and integrating a browser."

Microsoft is also giving away software for Internet "servers", the computers that store information distributed over the Internet and intranets, to purchasers of its Windows NT operating system. Netscape, which receives most of its revenues from selling server software, has had to slash prices on its basic server programs in response. "Our business model works even if all Internet software is free," says Mr Gates. "We are still selling operating systems." Netscape, in contrast, is dependent upon its Internet software for profits, he points out. Yet browsers and basic servers

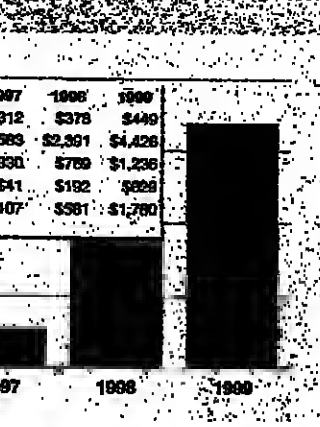
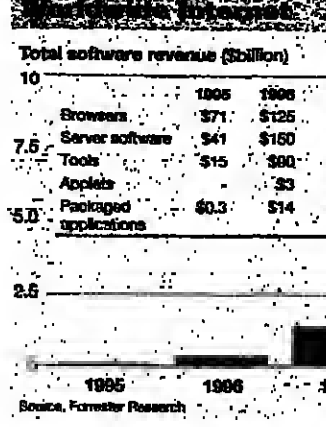
are only the starting point for Internet software. One of the next important battle grounds will be in "groupware" for the Internet and intranets; programs that enable people to work collaboratively over a computer network. In this arena, Oracle is claiming to be first past the post. Last month the company announced "InterOffice", a groupware program designed to work with the company's Universal Server multimedia database, which it claims will provide all of the features of established products such as Lotus Notes, and more. Similarly, Netscape is working on a new browser, code-named Calico, that it says will match proprietary groupware features. Meanwhile, Microsoft and Lotus are rejigging their groupware products to incorporate Internet standards.



Bill Gates: his ambitions are being hotly challenged

## Internet computing

Recasting the dynamics of the software industry



Year	1995	1996	1997	1998	1999
Compaq	18	21	24	27	30
Navigation	11	11	11	11	11
Commodore	2	2	2	2	2
Transvision	6	6	6	6	6
Network	20	20	20	20	20
Security	12	12	12	12	12
Management	12	12	12	12	12

Internet server software • By Philip Manchester

The spread of the Internet - and its internal corporate sibling, the intranet - is forcing a fundamental change in computer software at every level. New, simple browser software, running on low-cost network computers, offers an alternative to increasingly complex Windows PC systems. Innovative software tools such as Sun's Java language promise to simplify application-building. And the hypertext-linked model of the World Wide Web provides new ways to organise and access information.

# Fresh challenge for software developers

The next 12 months will be crucial in the development of useful corporate Internet applications - and server software is a key component in its success

One of the biggest challenges facing software developers in the 1990s is to find ways to bring together these new developments from the world of the Internet with existing computer systems. Internet/intranet systems are, of course, a variation on the now well-established, client/server approach to systems design. Client/server computing separates the presentation software on the desktop from a range of "back room" services - each under the control of a server computer. Most people are now familiar with desktop "client" systems, including the Apple Macintosh and the Windows PC. Typically, they have formidable processing power in their own right, local disk storage and can support a wide range of software. They call up server computers to access database files, communications gateways, printing services and, increasingly, the Internet. The Internet has introduced a new style of client called a browser (see report, right). A browser is

applications and we have to respond to the demand for new applications and greater productivity," explains Mr Bill Reedy, a vice president of IBM's software business. "Our strong presence in enterprise computing led us to re-package our key services as modular software servers which can help companies move into the new environment, while keeping control of their legacy systems."

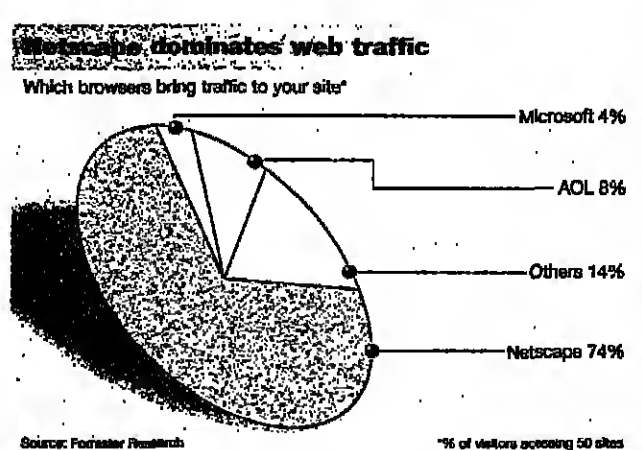
IBM now offers seven software servers in its range covering everything from its established CICS transaction processing software and DB2 database software to Lotus Notes and the Internet. At the same time, Microsoft has pushed into the server market with its Windows NT operating system. "A server is a combination of hardware and software and users are looking for increased resilience and all of the things they were used to with the old mainframe computers," says Mr Peter Blackmore, vice president of Compaq's European systems business. "Servers have traditionally been based on the Unix operating system. But as Microsoft's Windows

NT has moved into the commercial market, we are seeing a change. Our market analysis shows Windows NT has a compound annual growth rate of 120 per cent. Market acceptance is very high and the price/performance of NT is half that of Unix." Compaq is taking a scatter gun approach to Internet server software. It packages up Microsoft's NT along with Novell's Web server and Netscape's Commerce server free of charge with its range of server computers. "We think users need to make their own choices so they can fit in with their existing systems. Our job is to provide a resilient, open hardware platform," Mr Blackmore explains. Microsoft also claims high performance for the Windows NT software - "although Unix is the traditional base for Internet servers, Windows NT is gaining ground, especially where users want to put a server on a local area network. Performance is a key strength of Windows NT and we are two and half times faster than any other server platform," claims Mr Jeremy Cittins, Internet product manager at Microsoft UK.

Access to the Web • By Paul Taylor

# Battle of the browsers

Although most attention is focused on the contest between Netscape and Microsoft, there are now more than 20 other browsers on the market



Perhaps more than any other piece of Internet software, the browser epitomises the strength of intra-networking and the World Wide Web - access to vast treasures of information using easy-to-use yet incredibly powerful software tools based on internationally recognised standards. However, it is also in the market for browser software that one of the most bitter Internet software battles is being fought out between Netscape, the California start-up whose Navigator programme currently dominates the browser market with more than 80 per cent and around an 85 per cent market share, and Microsoft, which entered the browser market late, but which appears determined to establish its Internet Explorer browser as Navigator's main rival. On the face of it, it is a true David and Goliath battle since Netscape had annual revenues of just \$81m last year compared with Microsoft's \$61m.

But Netscape, founded by James Clark and Marc Andreessen and floated on the Nasdaq last year when it was valued at \$4bn, has some powerful allies, such as Oracle and Sun Microsystems, a large installed base and loyal following, particularly among corporations, which account for 70 per cent of its business. Overall, browsers accounted for about 60 per cent of the estimated \$127m in Internet software revenues last year and about a third of the projected \$322m in revenues this year. But the battle between Netscape and Microsoft is about much more than just Internet software revenues. As commercial use of the Internet grows and intranets - internal networks based on Internet standards and software - are

deployed throughout companies, browsers and browser technology are set to become a key element in corporate computing. Already many features of the browser are being built into software operating systems and other applications programmes, helping to turn the browser metaphor into the next-generation graphical user interface. For example, last month Microsoft unveiled plans to combine its top-selling PC software products, such as Microsoft Office, with Internet technologies to enable businesses to build intranets as part of a strategy to stake claim to leadership in the emerging intranet software market. Among the products previewed by Microsoft were new versions of its widely-used Windows PC operating systems, with built-in browser capabilities enabling users to search for information stored on their local computer, on an internal network or on the global Internet. The company also demonstrated Windows NT Server, with built-in tools for authoring and network management, and a search server for document searching. It also showed Office 97, a new version of its best-selling desktop application suite, that includes technology for publishing and searching information in the form of Web pages. Microsoft is "merging the best of the Internet and the best of the PC," said Mr Bill Gates, chairman. "Intranets will have an immediate and dramatic impact on businesses over the next few years," he predicted, by enabling office workers to find and share information more efficiently. Microsoft, which already gives away Internet Explorer and its Web server software free, is expected to put increased competitive pressure on Netscape, in particular, analysts expect Netscape to be forced to reduce further the prices of its own server products, the company's primary source of profits. However, Netscape, which claims that 92 of the top 100 companies in the US already use its software, shows no signs of surrendering its lead in the browser market to Microsoft without a fight.

Software applications: merchant servers • By Rod Newing

# Electronic shopping on the Web

Home shopping is likely to be eclipsed by business-to-business electronic trading

As Web sites become interactive, the current business model - which requires visitors to switch off their modems and pick up the telephone to place an order - is about to disappear. A new breed of Web software, called "merchant servers", is just around the corner which will allow visitors to place their orders and make payment securely whilst on the Web site. Sitting between the user and the organisation's existing internal systems, these servers provide a range of services for electronic trading. They have the ability to display product details held in a separate database, to search for products, fill an electronic shopping basket with purchases, process orders, carry out user identification, apply for a credit account, check credit, process secure payments, capture visitor preferences, carry out customised micro-marketing, offer coupons and discounts, handle sales taxes and provide reports. Browsers can download an electronic shopping basket, which will then hold their credit card details and delivery address. It will enable credit card processing and secure payment and may be incorporated into a future operating systems. The servers have also

been designed to support future electronic cash systems. Microsoft's new Merchant Server was demonstrated to 50 retailers in Washington in February and incorporates features from their feedback. Merchant Server currently only works with Microsoft's own Windows NT operating system and its browser, Internet Explorer. Only Explorer has the built-in security and encryption which electronic commerce requires, although it will soon follow in other browsers. Secure Electronic Trading (SET) is the new publicly-available standard which allows merchant servers to verify the identity of legitimate buyers and reassure them of the legitimacy of sellers. Payment SET is designed to guarantee the provision of goods and services and subsequent payment. Visa and MasterCard have developed it together with Microsoft, GTE, IBM and Net-Commerce. The specification should be available through <http://www.visa.com> or <http://www.mastercard.com>.

IBM is also developing Net-Bill, with Carnegie Mellon University, which will aggregate small transactions into larger sums which can be accounted for through credit card billing. Great Universal Stores (<http://shoppersuniverse.com>) and Walmart are beta testing Merchant Server at their respective electronic shopping malls. When goods have been examined and selected, payment is by debit or credit card, using SET. Open Market Inc (<http://www.openmarket.com>) has developed OM Transact, which is a top-end merchant server product aimed at very large retailers and Internet Service Providers (ISPs). "They have the momentum and power to get commerce on the Net," says Greg Pope, European general manager for Open Market. "Publishers are also important, because they have the content. And catalogue shopping companies are potential users." IBM (<http://www.ibm.com>) has recently announced Net.Commerce (<http://net.commerce.ibm.com>), which it has already used to sell tickets for the Olympic

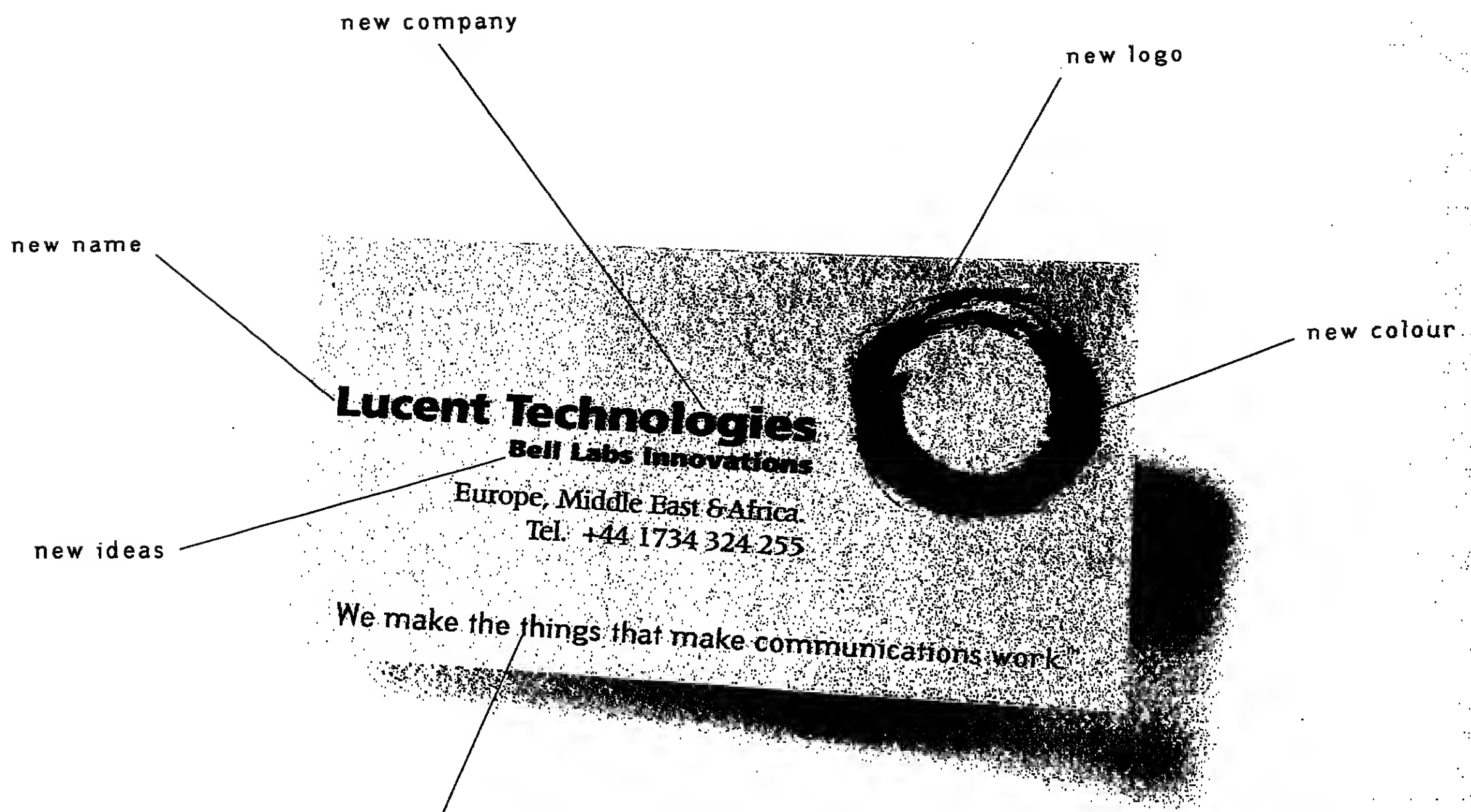
games at <http://sales.atlan-ta.olympic.org>. LLBean, the US catalogue retailer, will be the first commercial customer, with a service commencing in the third quarter of 1996. IBM is also offering to host on-line catalogues to allow organisations to trade electronically without incurring a high initial investment on the strength of unquantified benefits (<http://www.ecs.hosting.ibm.com/ims/ims.html>).

Net services Lotus (<http://www.lotus.com>) is developing a new set of applications designed to introduce new core services to the Internet. The first of these "e-applications" is Lotus Newsstand, which is used by information providers to publish material to subscribers. Additional applications are being developed for electronic data interchange, enhanced security, credit card processing, subscription management, customer service, and billing. Netscape (<http://home.netscape.com>) has Merchant System for high-volume sites. It is used by WorldView Systems and Sabre for their travel service at <http://traveltocity.com>. Andersen Consulting and EDS are implementation partners. Netscape has just announced LivePayment, which extends Netscape's SuiteSpot Web servers with a set of templates which allow webmasters to build electronic commerce applications themselves. Netscape has also set up Actra ("Active Transactions") Business Systems, jointly with GE Information Services, the world's leading provider of business-to-business electronic commerce. This move is aimed at bringing the considerable advantages of EDI to a wider business community using Internet technology. Bob Lewis, IBM's European Marketspace manager has a very balanced view of electronic trading. "Any electronic mail service is limited by the slow speeds of home modems and by the limitations of graphics and images that the web server provides. "Browsing for products is frustratingly slow, but you can shop when you want and move quickly between stores."

"Where the electronic mall will have added strength is in the new enhanced features, such as micro-marketing, personalised shopping and comparison shopping techniques." Electronic shopping is going to be a valuable additional service on the Web, but it is possible that home shopping will be eclipsed by business-to-business electronic trading. Businesses have faster links to the Web and bigger purchasing budgets than households. A recent survey of large companies by Barclays, the UK high street bank (<http://www.businesspurchasing.com>), found that nearly half of them want to use the Internet to order goods and services direct. Shoppers' Universa already includes a small business-to-business section and General Electric have set up a significant trading opportunity between businesses at <http://www.ge.com/tpn/>. These new electronic trading systems will need to be aimed at other businesses - not homes - if the revenue-earning potential of the Web is to be maximised.

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# FOREIGN EXCHANGE

## Central banks steady the markets

During the uneasy quiet which now prevails the industry faces a period of restructuring. But, asks Philip Gawith, how long will the calm last?

Anyone inclined to the fashionable thesis that in an era of global capitalism, power is seeping inexorably from state to market need look no further than the foreign exchange markets for a convincing rebuttal.

Central banks and finance ministries have scored a convincing victory over their old foe, the currency trader, with exchange markets currently more benign than for many years.

The dollar has rallied strongly after its historic lows last year, the yen and the D-Mark have both weakened appreciably, providing much needed stimuli to their ailing economies, and the level of volatility in the main currencies is approaching record lows.

This period of stability is testimony to a greater sense of common purpose among G-7 partners, backed by real policy measures, than has existed for a long time. Last week Larry Summers, the deputy secretary of the US Treasury, told a New York audience: "The only path to enduring exchange market stability is through the pursuit of sound economic policies."

The message from the markets is that the G-7 is on that path. However, it is a slightly uneasy calm that prevails. Historically, the longer that markets stay quiet, the fiercer the subsequent move. It is almost a year since central banks last intervened together to stabilise currency markets - a protracted peace by the standards of recent years.

Two questions in particular are occupying the market. The most important concerns the dollar - is the rally of the past year likely to be sustained? Does it represent a fundamental turn in the trend after more than 20 years of steady depreciation in the world's leading reserve and trading currency, or is it simply an upward blip within the ongoing downward trend? Much money will be made and lost getting the correct answer to that question.

The other fundamental question concerns the path to a single currency in Europe. Will traders still be trading D-Marks, francs, pesetas and lire in 1999, or will they all have been subsumed in the euro?

There is a tantalising absence of consensus on both of these questions. While the market remains broadly positive about the outlook for the dollar, there is still considerable scepticism about whether it can really have shaken off its bad old ways. As for Europe, nobody undauntedly makes the collective political will, but the combination of a rigid timetable and a process driven relentlessly by politicians and bureaucrats against a backdrop of widespread popular scepticism, leaves an ugly bout of indigestion a distinct possibility.

From a purely selfish perspective, this is what many in the currency markets will be hoping for. For if there is one constituency in the world which does not enjoy the era of New Age economics, where all governments sing from the same hymn sheet of fiscal and monetary probity, it is foreign exchange traders.

The mood in the industry is subdued, with keen competition and calm markets proving an unpropitious trading environment. Paul Chappell, head of foreign exchange at Bank of America in London, says: "1996 has been a very quiet year so it is very likely that people are

going to be struggling to meet their budgets." The conundrum the industry faces is, in the words of one manager: "Is it a drought, or do we live in a desert?" Will the industry return to the fat years of 1982/3, or must it learn to live with the current market environment?

Most dealing room managers are confident the music will start to play again - that the current policy consensus between leading industrial nations will unravel, prompting renewed exchange rate turbulence. But even if they are right, it is unlikely to offer more than a temporary respite from the far-reaching challenges the industry is facing.

Optimists will report that they have been here before -

**Everybody is hoping for a return to the days when central banks threw money at the markets**

back in 1981, a backdrop of quiet markets led many to question the future of the business, only for huge turbulence in the European exchange rate mechanism in 1992/93 to restore fortunes.

Only the most sanguine, however, believe this will do more than delay the inevitable. Market turnover may continue to grow - the most recent survey from the Bank for International Settlements suggests total daily turnover grew by 30 per cent from 1992 to reach about \$1,200bn/day in 1995 - but fierce competition and the onward march of technology have put profits under pressure, especially in the main currencies where huge vol-

umes are traded for little or no margin.

Guy Whittaker, head of global foreign exchange at Citibank, said recently that after 30 years of sustained growth in the industry, "we have perhaps reached a point where, because of a changing environment and new technology, the growth of capacity of the market has exceeded the growth in demand."

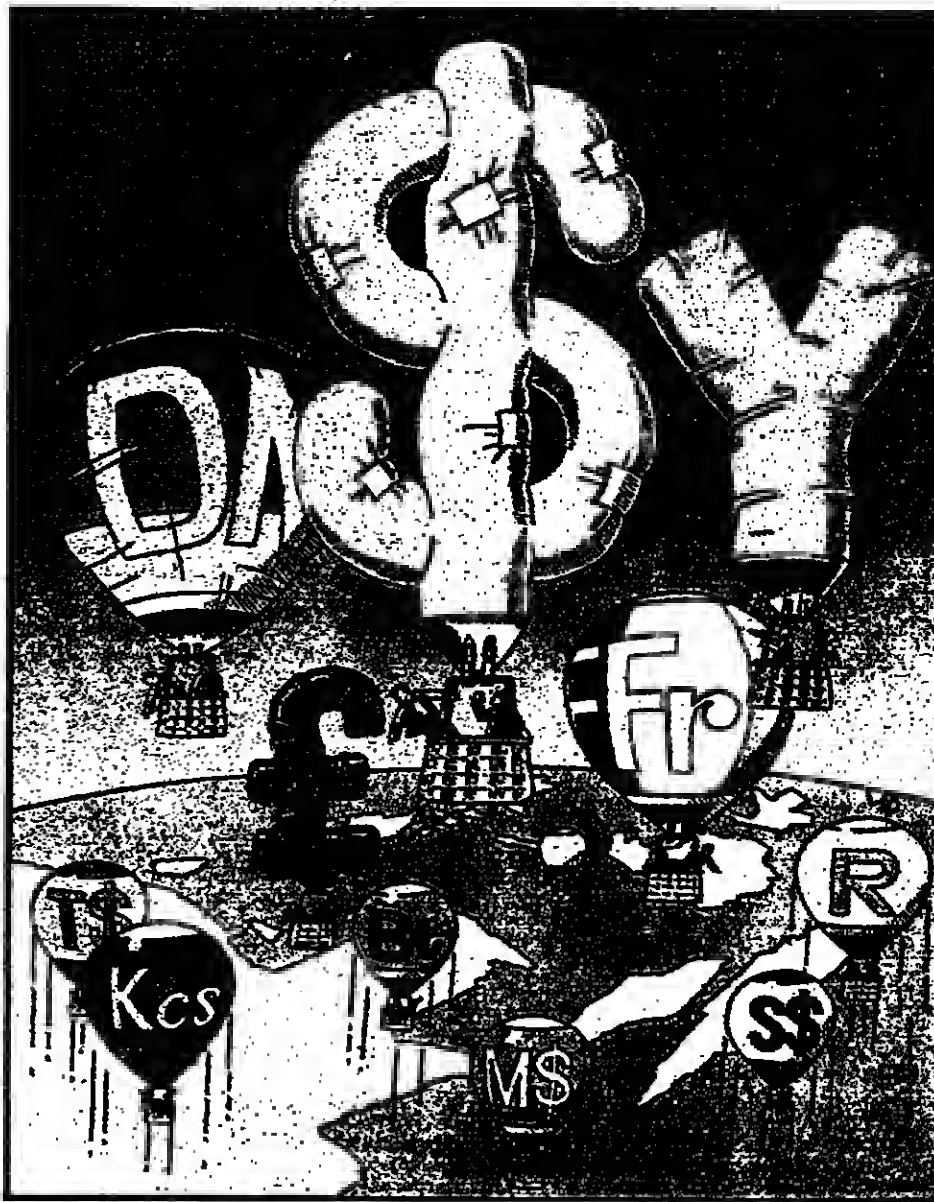
As with the rest of the banking industry, it is increasingly the case that machines can do some of the work more cheaply and more efficiently than people. Partly, this involves labour intensive, back-office administrative work. But the front office is by no means immune. The powerful growth of electronic trading systems means that prices can, in many cases, be accessed from a machine. Reuters 2000-2 and EBS, the two electronic systems which allow trades to be done by matching buy and sell orders that have been put into the system, have carved out a large market share. This has come at the expense of both the voice-broking and the larger banks, who have lost much of the business they used to receive from smaller banks.

Klans Said, head of foreign exchange at JP Morgan in New York, says: "I can very easily see where you have fewer traders and essentially no, or very little, interbank market making beyond gentlemen's agreements, with electronic broking used to get you out of your positions."

It is no wonder then that the spot trader, that most hoary of all market stereotypes, and bank of finance ministries over the years, appears an increasingly threatened species.

Privately, most managers of large dealing rooms agree that a significant shrink in the head count over the next few years - 30-40 per cent is not controversial - is inevitable.

Technology is not the only factor at work here. Consolidation and centralisation are two other important themes, both of which will cause job losses. The best example of consolidation is the merger of Chase and Chemical banks to form the new Chase, a potential contender for Citibank's status as



the dominant foreign exchange bank, but also one now carrying on business with 20 per cent less staff. The merger of the Bank of Tokyo and Mitsubishi was also a significant one for the markets.

This sort of shrinkage has ramifications across the industry. There have already been significant job losses in the broking community, caused in part by the rapid growth of electronic broking, but also aggravated by the disappearance of important customers through merger.

Centralisation is also in vogue. Increasingly banks are closing many of their smaller trading rooms in minor centres, preferring to centralise

their price-making capabilities in a few regional hubs, such as London, New York and Singapore. Local branches are then used as marketing outlets which only make prices in the domestic currency. From a global perspective, this process has involved big job losses, although this is not so evident in the large centres which, if anything, could be net beneficiaries.

Mr Whittaker cites the case of Citibank: eight years ago the bank had 36 spot dollar/D-Mark dealers trading in 17 independent centres just in Europe. "Today we do more business and serve more customers in dollar/D-Mark with only six dealers operating in two centres."

from transactions to advice, with banks and brokers anxiously trying to move up the value-added chain to preserve their margins.

"Five years ago it was all about price. Now it's about relationships, idea generation and research," says Jeremy Hodges, head of foreign exchange sales at Bankers Trust in London. "The customers of today are far more sophisticated than they have ever been."

The future, then, is shaping up as one where fewer, more highly trained staff are employed, with far more effort, attention and resources devoted to customer service, and far less to purely transactional jobs where little value is added.

Customers, in turn, will be asked to pay for this service. At the moment, says Mr Said, "this market is dramatically skewed towards the client like no market I have ever seen".

But while the industry is having to face up to some difficult decisions, particularly on the cost side, there are also some bright spots. The most obvious is the growth in emerging markets currency trading. Margins are better, but risks are also higher, and there is no short cut to expertise in these markets.

There is no doubt, though, that these currencies will play an increasingly important role in the activities and profits of most dealing rooms.

Options are another growth area, particularly in the form of exotic options. While some banks and customers have burned their fingers, their superiority as hedging instruments seems likely to ensure that they will continue to grow, possibly cannibalising the spot market in the process.

While growth opportunities remain and have to be seized, the industry's current focus is more inward - on achieving a cost base that is sustainable through quiet markets, and improving returns on capital. Everybody, however, is hoping for a revenue surprise - a return to the good old days when central banks obligingly threw money at the markets.

History may record the present period as a one-off shift to lower price volatility, driven by greater policy convergence. That is the keen desire of politicians and central bankers. If not, the time may be approaching for the pendulum to swing back towards the market.

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2 FOREIGN EXCHANGE

The impact of a strong currency

Japan by William Dawkins

Yen's rise prompts exodus

Japanese manufacturers are shifting production to cheaper locations offshore

Toyota, Japan's largest car producer, will in two years' time start making engines in China, its first significant foothold in this potentially enormous market.

Hardly a week goes by in Tokyo without a top manufacturing company announcing a project in Asia, whether it be a tentative first step into the wilds of China or a semiconductor plant in an advanced, newly industrialised economy such as Singapore.

What has changed in the motives of Toyota and others for their expansion overseas? Until recently, the main driving force was the strength of

The yen has risen by 83 per cent against the dollar since 1985

the yen. But deeper factors are also at work. Japan, once supreme in mass production, is being overtaken by its more recently industrialised neighbours. It now faces the challenge of how to find new high-

technology sectors in which to compete, at present the top priority for its industrial policy planners at the ministry of international trade and industry.

The climb of the yen alone has been a powerful stimulus for change. Since the end of 1985, the currency's value against the dollar has risen by 83 per cent to around ¥109, touching a high-raising record of ¥119.75 in April last year.

Manufacturers have responded correspondingly fast in shifting new production to cheaper locations offshore, though they have been slower in shedding redundant capacity at home, a legacy of the largest companies' continued promise to provide lifetime employment.

Over the past near-decade, the share of Japanese companies' production offshore has risen from 3 per cent to 7.9 per cent at the latest Miti count at the end of 1994. Since then, the signs are that growth in the share of foreign output has accelerated. The total could reach 20 per cent in the next three to four years - about the same as in the US now - according to the Japan External Trade Organisation.

Already, Japanese manufacturers produce more abroad than they export. Overall, foreign direct investment in North America declined from just over half of the total when Japan's FDI peaked in 1988 to 45 per cent last year, while the

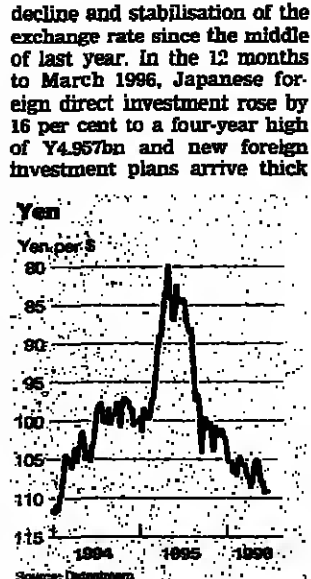
decline and stabilisation of the exchange rate since the middle of last year. In the 12 months to March 1996, Japanese foreign direct investment rose by 16 per cent to a four-year high of ¥4,957bn and new foreign investment plans arrive thick

As the focus of new production has switched to Asia, so the new arrivals have started to put down local roots more deeply than before. They have invested more in servicing local markets, and moved some research and development and even management functions out of Japan.

Japanese companies' local units reinvested 60 per cent of their local profits on increasing capacity for local markets, rather than exporting, twice as much as five years ago, according to Jetro's 1996 white paper. More companies are setting up local headquarters with decision-making responsibility, it remarks.

Meanwhile, Japanese companies' domestic spending on research and development started to decline three years ago for the first time since the war, since when foreign oil shoots' R&D has correspondingly risen, according to a recent Miti survey.

All points to a decisive move away from the centralised, domestically oriented tradition of Japan's top companies. That suggests that the shift of capacity offshore should, as Jetro hopes, continue to rise to the levels achieved by other mature economies.



Source: Department of International Trade and Industry, Tokyo

Germany by Andrew Fisher

D-Mark dip suits exporters

The stagnating economy now looks like moving back hesitantly to a growth path

Germany's exporters are breathing more easily this year. Already under pressure from high domestic labour costs and taxes, they bore an extra burden in 1995 as the D-Mark soared against the dollar and several European currencies. But now the trend has been reversed and the German currency is back to its levels at

The D-Mark is back to its levels at the beginning of last year

the beginning of last year. This is positive news for a stagnating economy which looks like moving hesitantly back to a growth path. With private consumption and industrial investments lacking any real impetus, exports are the economy's main support.

Encouragingly, the Bundesbank said in its June monthly report that exports had stabilised at the high level of the second half of 1995. The correction of the D-Mark's overvaluation of last year had brightened the export outlook and also improved companies' profitability.

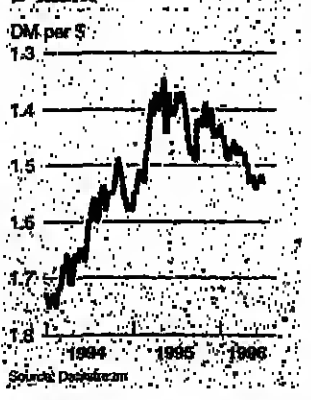
From a low of DM1.3450 in April 1995, the dollar has climbed above DM1.53, with economists expecting it to strengthen to perhaps DM1.60. At the peak of the D-Mark's rise last year, it had risen by 6 per cent against the currencies of the 18 most important industrialised countries.

The D-Mark's revaluation last year reached 14 per cent against the dollar, 20 per cent against the lira and 10 per cent against sterling. It was less extreme against the peseta and the Portuguese escudo.

"It has taken 14 months to level the unjustified appreciation of the D-Mark in the first quarter of 1996," Bank Julius Baer said in its latest economic summary. However, the changed currency trend also meant economic growth in Germany's neighbours would weaken once the impact of

their depreciations had worn off. Thus they were likely to cut interest rates to choke off further rises in their currencies.

The combination of high costs, currency uncertainties and a desire to gain access to



Source: Department of International Trade and Industry, Tokyo

new markets has led to a rapid increase in German companies' investment abroad. Last year, the total nearly doubled to around DM50bn, while foreign investment in Germany was only DM13bn.

Several big transactions in the insurance, pharmaceuticals

and banking sectors pushed up German investment abroad, the bulk of which went to the European Union and the US.

But German companies are also investing more in south-east Asia and eastern Europe. Increasingly, the Bundesbank noted, exporters are incorporating cheaper foreign components into their export products.

Thus higher exports do not fully benefit the German economy. Also, foreign order figures could be exaggerated through inclusion of contracts that companies pass on to lower-cost foreign subsidiaries.

So while the D-Mark's strength may have abated, exporters are still striving to cut costs. In fact, the impacts of currency shifts. Moreover, the currency could come under further revaluation pressure if markets thought a postponement of European monetary union - aimed at stabilising economic and currency conditions - was likely.

The Bundesbank, however, will be anxious to ensure that the D-Mark does not enter ERM at too high a level, locking the country in from the start at uncompetitive levels.

Managing exchange rate fluctuations

Fund manager case study: Guinness Flight • By Philip Coggan

Teamwork plays prime part

John Stopford's team looks after around \$1.3bn of assets with a currency overlay

Fund managers are becoming increasingly aware that they need to take a view on currency movements, as well as on the prospects for bonds and equities.

John Stopford, a portfolio manager at UK fund management group Guinness Flight, is one of a team which looks after the currency exposure of the group, plus a range of onshore and offshore currency and bond funds for retail and institutional investors. The team looks after around \$1.3bn of assets with a currency overlay.

"We have been managing currencies as a separate asset class from bonds and equities since as far back as 1980," he says. "That means putting a currency overlay on all our bond and equity funds. What is good for bonds and equities isn't necessarily good for currencies. So just because we are invested in US treasuries doesn't mean we are in dollars to the same extent."

Frequently in recent years, currencies have been moving in the opposite direction from

the underlying asset class. "Over the past year, the optimal strategy has been to be long the Nikkei 225 and short the yen," Mr Stopford says.

The decisions on currency strategy are taken by the entire team. "For us to have a reasonable amount of success we feel it's important to generate ideas internally," says Mr Stopford.

The team has a disciplined process of quarterly, monthly and weekly meetings, during which it looks at what Mr Stopford calls "compelling forces" - those key factors which we think drive exchange rates over the medium and long term. "Each month the factors are 'scored' by the team to help members reach a view on currency prospects."

"In the very long term, currencies move to offset changes in competitiveness," he says. "Relative prices are important, and while purchasing power parity doesn't hold true all the time, it does have an influence." The team also considers other long-term factors such as if a country runs a consistent current account deficit.

But, Mr Stopford says that "in the short term, currencies can deviate quite a lot from their long-term path." The Guinness Flight team accordingly looks at factors which

affect short-term capital flows such as "short-term interest rates, real bond yields, direct investment flows, whether the trade position is worsening or improving, and whether central banks are intervening".

Chart patterns, or technical



John Stopford: It is important to generate ideas internally

analysis, can also play a role in determining the team's short-term view, as can non-economic factors such as politics. All in all, the scoring process means that, according to Mr Stopford, "we might be wrong about individual factors but on balance, hopefully, the totals are pointing in the right direction."

The process also limits the tendency for the managers to

become involved in needless dealing activity. "We are strategic investors rather than traders and we add value by taking a long-term view," says Mr Stopford.

Once the team has decided on its view, the appropriate funds will move in the same direction (and at the same time). "Our dealing will be done using one of a number of City financial institutions. For credit reasons, we spread the risk pretty carefully, and we look at pricing and quality of research."

At the start of the year, he says, the currency decisions were relatively easy. Japan and Germany had easy money policies, the Japanese current account was deteriorating, and the respective authorities were talking down their exchange rates. "That made it smart to be long dollars and short yen," says Mr Stopford.

The decisions are harder now. "The US dollar no longer looks that cheap and the DM and yen no longer look that expensive." The Italian lira and Swedish krona have moved from being undervalued. We remain long of the dollar but we have reduced our positions gradually. We have also reduced positions in peripheral currencies."

International company case study: Marzotto • By Andrew Hill

Currency exposure controlled

Just over two-thirds of the company's L2,400bn turnover consists of sales outside Italy

Pietro Marzotto is looking forward to the arrival of a single European currency, if only because it could save him a little of the time he has to spend every Tuesday discussing exchange rates with the financial managers of Marzotto, the quoted Italian clothing and textiles group of which he is chairman.

Just over two-thirds of Marzotto's annual turnover of L2,400bn is represented by sales outside Italy. The group also has production based in Germany (it controls Hugo Boss, the German menswear group), France, the Czech Republic and Tunisia.

While the lira was in the European exchange rate mechanism, control of movements against other European currencies was relatively simple. But the precipitate departure of the Italian currency in September 1992 ushered in a new period of exchange rate volatility, exacerbated by domestic political uncertainty.

Marzotto's 1995 report and accounts underline the prob-

lem. Last year, the average exchange rate against the D-Mark - the most important currency for Marzotto - was L1,130.88.

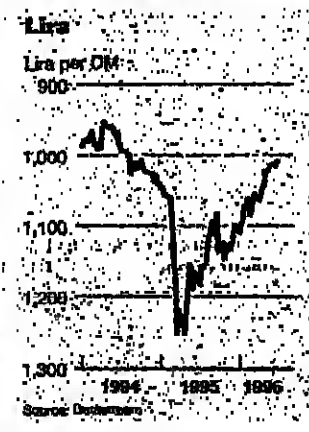
That compares with L996.52 in 1994 and L1,071.6 in the first quarter of this year. Now analysts talk about the lira re-entering the ERM at a central rate of some L1,000.

Under the circumstances, Pietro Marzotto is understandably cautious about forecasting a consolidated result in lira. In his message to shareholders he directs attention to the more stable Ecu-denominated profit and loss account.

End-year translation effects are only part of the problem facing Marzotto, however. The 1992 devaluation was widely interpreted as a boon for Italian exporters. But whereas small Italian companies were able to take advantage of the weak lira with simple order bids on the export market, Marzotto could not afford to be held hostage by a volatile currency in 1993, prompted by the lira's exit from the ERM, the company introduced a new system of hedging and control over exchange rates.

Mr Marzotto is proud of the new system, and reluctant to reveal it in detail, but the central instrument for controlling currency exposure is a weekly

report, analysed by the chairman and his top executives. In the report, the company assesses its commitments in foreign currencies - credit sheet debt, plus the forecasts for future orders and expenses. It then borrows in local currency, or occasionally uses foreign exchange swaps, to cover



Source: Department of International Trade and Industry, Tokyo

part of the risk. The level of coverage is cyclical, as the business is in part based on the presentation of each season's fashion collections. "Gradually, as forecasts become more certain, we increase the coverage," says Mr Marzotto.

The report also allows the

group's executives to examine what would happen if all Marzotto's foreign currency debts, orders and commitments were realised, thus giving a weekly snapshot of the group's exposure to currencies. Foreign subsidiaries, including Hugo Boss, now use a similar system.

The system has allowed a clearer picture of underlying trading at Marzotto to emerge from the currency turbulence. In fact, in the past three years, weak demand in core markets has had a greater impact on Marzotto's results than exchange rate movements. Marzotto's 1995 report explains that the lira's weakness last year "did not, in fact, benefit the operating margins and the total profitability. In fact... higher costs were incurred for goods and services, and negative exchange differences on the settlement of financing in foreign currency" aimed at reducing exchange rate fluctuation.

Now the lira is strengthening, Marzotto also faces a squeeze on its export margins, with long-term clients reluctant to pay higher prices. No amount of sophisticated currency hedging, it seems, can help soften the tough commercial reality of working in world markets.

Europe by Lionel Barber

Traders are warming to Emu

The financial markets have sensed the political will behind monetary union

Something strange happened in the foreign exchange markets this spring. Traders, long sceptical about economic and monetary union, turned into near-believers.

The shift in sentiment created a measure of stability in the exchange rate mechanism and a narrowing of long-term bond yields between Germany and potential ERM participants, notably France. All this occurred despite a slowdown in the European economy, persistent high unemployment, and the surprise news that Germany's budget deficit for 1995 exceeded the Maastricht treaty target of 3 per cent of GDP. What is going on?

The first explanation is that the financial markets have finally sensed the formidable political will behind the Emu project. This is true of Chancellor Helmut Kohl who sees monetary union as the cornerstone of a more politically integrated Europe, and it is even truer of elite political opinion in France.

The turning point came last November when President Chirac abandoned equivocation and sanctioned a severe squeeze on public spending. Prime Minister Alain Juppé initially mismanaged the package of spending cuts which stirred up violent street protests; but by the New Year, calm returned and the bulk of the cuts, including reforms in social security, remain intact. Now Germany has embarked belatedly on a similar austerity drive with proposed cuts of

DM50bn at federal and state level.

The second explanation is that markets have woken up to the fact that the technical obstacles to Emu, though daunting, are manageable. The European Commission and the European Monetary Institute are confident that all work will be wrapped up by the end of the year. This includes German-led proposals for a stability pact to enforce budgetary discipline among ERM participants, and the politically contentious relationship between those willing and able to join Emu and those unable or unwilling - the so-called "ins" and "outs".

Last April, at a meeting in Verona, Italy, EU finance ministers agreed in principle on the creation of a new model ERM which would preserve the current 15 per cent fluctuation bands for currencies with the euro replacing the D-Mark as anchor currency. The future European Central Bank would offer limited intervention to support currencies in difficulty, but the onus would be on member states to put their own house in order. More important, the ECB would have the power to propose a currency realignment, remedying one of the defects in the present system where countries can delay adjustment for political reasons.

Finally, the markets have grasped that Emu will ultimately be a political decision, to be taken by EU heads of government in the spring of 1998 (under the British presidency). This should allow a measure of flexibility in the interpretation of the Maastricht criteria, particularly on the ratio of government debt

to GDP which is supposed to be 60 per cent or approaching the target at a satisfactory rate. Last month, EU finance ministers decreed that both Denmark and Ireland met the Maastricht targets because their debt ratio was declining

at an appropriate pace, despite German protests.

None of this suggests that Emu is guaranteed to go ahead on January 1, 1999. The biggest uncertainty is the performance of the European economy. Only three countries,

Denmark, Ireland, and Luxembourg, meet the Maastricht criteria. Without a return to growth, France and Germany will struggle to get near the budget deficit target of 3 per cent.



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Risk management: by Philip Gawith

# Debate rages on derivatives

Customers are now seeking to hedge their risks rather than improve returns

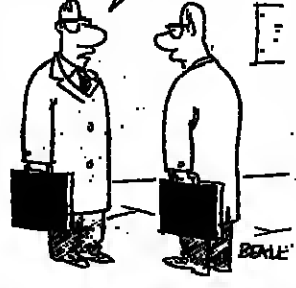
You will not travel far in the foreign exchange business without tripping over the phrase "risk management". As markets mature and margins disappear from the business of spot foreign exchange, banks are seeking increasingly to find a new role for themselves under the guise of offering a risk management service.

On the face of it, this is no more than an appeal to common sense. But the devil, as ever, is in the details. Derivatives are key risk management tools, but in the wrong hands they can aggravate rather than reduce risks and the industry remains saddled with the legacy of many large losses which, rightly or wrongly, are attributed to the use of derivatives.

A debate continues to rage about their usefulness and the temperature rose recently with the appearance of a provocative article "Why derivatives don't reduce FX risk" in the McKinsey Quarterly. Authors Tom Copeland and Yash Joshi wrote: "The sad truth about foreign exchange risk management programmes is that most would not pass the doctor's basic test: First, do no harm... it is clear that many programmes destroy value instead of protecting it."

They continue: "Of all the variables that influence a firm's financial performance, FX is but a minor contributor to total risk, except in the event of catastrophic currency failures... And even if the FX risk was a serious one, a study the authors performed of

I'VE WORKED IT OUT-IF THEY TAKE THE RISK OUT OF BANKING OUR LIVES WILL BE 0.0002 PERCENT LESS EXCITING



200 large companies suggested hedging may not be much help in addressing the problem. They found that in only 20 cases would income volatility be reduced by more than 10 per cent.

This is not a very helpful message for those manning the options desks of large banks which market these instruments as useful hedging tools. Unsurprisingly, the McKinsey analysis is vigorously contested. Zar Amrolia, global head of FX options marketing at Deutsche Morgan Grenfell, says the critique is "misconceived because it tries to look at risk in isolation without considering returns."

He argues that a successful hedging programme can increase the value of a company by "adding to the growth in cash flows and reducing the cost of funding."

He also contests the assertion that FX risk is not worth hedging, citing the 1994 case where Matsushita lost \$1.7bn in translation exposure due to currency fluctuations when it sold MCA.

Figures in the book Managing Foreign Exchange Risk by

David DeRosa also show that during the 1988-95 period, hedged returns on global equity and bond indices were roughly double or half of those of corresponding unhedged returns, depending on which side of the currency the investor was.

Mr DeRosa believes that the onward march of derivatives is ineluctable, with the bad experiences largely behind it. "Interest is so great that it is only a matter of time before the market learns how to use these products. I see this tremendous effort in the way of education and new systems for risk monitoring. This paves the way for increased use of derivatives."

There is also evidence that the knowledge gap between dealers and users has closed to the point where there is greater mutual understanding of purpose than sometimes existed in the past.

Les Halpin, managing director at Record Treasury, a currency risk management group, says customers are favouring simpler products that are easier to understand.

"We are being asked more to look at strategies which reduce risk. In the past people asked: how can we add to return, but the only way you can add to return is by adding to risk,"

says Mr Halpin.

The focus, therefore has shifted to protecting the downside rather than trying to improve the upside.

It is not clear, however, that banks are looking at the subject in entirely the same way. As the options business has matured, traders have resorted increasingly to using exotic options, rather than vanilla options.

The most common type of exotic option, the fastest growing part of the business, are those with a binary, or fixed pay-out, structure. These are essentially bets - either they are right or wrong, at a very price specific point. A regular currency option, by contrast, has a much more incremental effect, with the pay-out based on the degree to which the option is in or out of the money.

For all the appeal, exotics are a complicated area, and some banks have paid heavily for their inability to develop suitable modelling systems to value these options.

One US-based trader comments: "Someone new falls on their sword every day. There is a lot of blood out there." Clearly it is not only customers who are at risk from dabbling in areas they do not understand.

Netting: by George Graham

# Herstatt lessons learned

Banks have taken a number of steps to reduce payment risks in the foreign exchange market

When Bankhaus Herstatt, a small Cologne bank, collapsed in 1974, it cost its foreign exchange trading partners more than \$620m in uncompleted deals and created a whole new category of risk for central bankers to worry about.

Two decades later, what has become known as Herstatt risk appears at last to be on the verge of being dealt with, or at least sharply reduced.

Banks have taken a number of initiatives aimed at reducing payment risk in the foreign exchange market, either through netting agreements, which allow banks to offset the amounts they owe each other, or through some form of centralised clearing house.

Bilateral netting services are operated by a number of groups such as FXNET, a partnership of 12 leading banks, Swift, the global payment message network, and Valuent, run by the International Clearing House.

These systems allow any two banks to offset the gross sums

they owe each other, and settle up only the net difference.

Many banks still do not use these services, however, and many that do still use only "close-out netting", which is only triggered by some defined event such as the appointment of a liquidator. Routinely, they still tend to pay each other in gross.

Since last August, the concept of netting has extended on to a multilateral basis with the creation of the Exchange Clearing House, or Echo. Participants make payments not to each other but to the clearing house, significantly reducing the number of payments they have to make and thus, it is hoped, their exposure.

A competitor called Multinet, sponsored by a number of US and Canadian banks, is still awaiting regulatory approval. But the initiative which has excited most interest is the work of 17 of the world's largest foreign exchange banks, which have oddly dubbed themselves the Group of 20, on the establishment of a global clearing house bank providing an instantaneous foreign exchange settlement system linked to national payment systems such as the UK's CHAPS or the US's Fedwire.

If the G-20 project comes to fruition, it would virtually

eliminate a whole tranche of risk from the world financial system.

Because payment for both sides of a foreign exchange deal would be made simultaneously, banks would no longer be left in the position, as they were by Herstatt, of having paid up their side of the bargain but not having received anything in return.

From the central banks' point of view, it is not a moment too soon for addressing the issue of payment risk. Twenty-two years have passed without another shock to the foreign exchange markets on the scale of Herstatt, and some commercial banks have grown unwilling to invest serious money in addressing a risk which appears remote.

To the central banks, the risks appear anything but remote. They have been constantly reminded by such crises as the failure in 1990 of Drexel Burnham Lambert, the US investment bank, and the Bank of Credit and Commerce International (BCCI) in 1991, or the attempted coup d'etat in Moscow in 1991.

Last year, the collapse of Baring Brothers, the UK bank, threatened to block the settlement of Ecu50bn (£39bn) of payments, even though Bar-

ings itself was involved in less than 1 per cent of them.

The problem is that while the risk of another Herstatt is small, the sums traded in the foreign exchange markets are now so large that even that tiny risk is unacceptable.

"The risk is not zero. It may be point zero, zero, zero, but there is a significant digit," said John Reed, chairman of Citibank, one of the world's largest foreign exchange dealers.

What remains to be settled is which of the various initiatives will win the day. Some banks argue that netting and real-time settlement systems such as the G-20 project are complementary, but the reality has been that a number of potential participants have held back from the multilateral netting schemes while they see if the G-20 can get off the ground.

"At the end of the day, it will be the G-20, because that is where all the big boys are," said one London foreign exchange chief.

Some of the netting houses would disagree, but the G-20 is steaming ahead. Some legal issues remain to be ironed out, but participants in the project believe it could be up and running inside two years.

Central bankers around the world will sleep easier if it is.

PROFILE Donald Layton

## Man in hot seat at Chase

In terms of the architecture of the industry, there has been nothing over the past year to match the merger of Chase and Chemical, two of the largest foreign exchange banks whose combined capacity clearly gives them some claim to top dog status in the industry.

It is a claim which Citibank, long time market leader, would fiercely dispute, and it is an ambition which Chase itself eschews, but there is no argument about the potential. The key issue is whether the whole can be made more than the sum of the parts.

The man saddled with the task of pulling it off is



Donald Layton: challenge is to build the business

Donald Layton, vice-chairman in charge of global markets at the new Chase, the name of the merged bank. He is confident: "There is no reason why you can't put them together and get better than the parts added up. We did this once before with Chemical and Manufacturers Hanover. I don't think it is going to be that hard. It is the same business on both sides."

From a forex perspective, the merger made sense in that there was perhaps not more than a 50 per cent overlap in their businesses. Chemical's business was dominated by market-making, with financial institutions, investment funds and "corporates who acted like professionals" as its main customers. Chase, by contrast, had a much stronger sales emphasis, was more oriented towards corporate customers, and had a greater emphasis on "value-added" rather than vanilla solutions.

Given this balance between the two component parts of the new bank, and the clear shift in the business away from market-making towards customer business, it is slightly ironic that Chemical has gained the upper hand.

causing many senior staff from the old Chase to leave. "The wrong bank won," is the judgment of one competitor. Mr Layton will be anxious to prove him wrong.

He is confident that the bank will not lose clients as a result of staff who have left. "Relationships are institutionalised as well as personalised. It is not just a question of the guy on the desk."

The merger is a two-stage business: the first part, actually putting the two organisations together, has been to effect since April 8, when Chase began presenting a single face to the market.

"While the physical and technological sides of the merger have been achieved, the psychological aspect will obviously take longer," says Mr Layton.

The second step of the process involves getting the cost savings out of the merger, the aim being to keep "virtually 100 per cent" of the revenues at the same time. The effect of the merger has been to cut both costs and staffing by about 20 per cent, but revenues are more difficult to judge because they depend on market conditions. Mr Layton believes, though, that they are easily being maintained.

Now the challenge is to build the business - in particular, to combine Chemical's market-making ability with local branch network and global reach of Chase; to take less mature currencies - Mr Layton cites the Greek drachma as an example - on to the world stage.

"Cross-over trades" is what the bank needs to achieve success - the merged bank has more products and customers than either of its constituents. The two must be brought together.

Mr Layton believes Chase should be able to grow, by taking market share, and through more successful proprietary trading.

He also thinks Chase should have a larger share of the client market. "We do not have our natural market share for the bank we have become."

Remedying this will involve doing a better job of pursuing corporate business, but the stress will be on the institutional side, with rising global investment flows the main stimulus to market growth.

Philip Gawith

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4 FOREIGN EXCHANGE

■ US dollar: by Philip Gawith

# Dollar does an about turn

The biggest question facing the markets is whether the currency's rally will prove enduring

If a week is a long time in politics, then a year is an aeon on the foreign exchange markets. A little over 12 months ago, the dollar had sunk to historic lows against the D-Mark and the yen, prompting concerned discussion about its future as the world's main reserve currency.

A year later, that concern seems somewhat overblown. The dollar has rallied by about 27 per cent and 12 per cent respectively from its lows against the yen and the D-Mark to reach its current levels around Y109 and DM1.53. Its status as the dominant trading currency is unimpaired - official figures show it figures on one side of 83 per cent of spot foreign exchange transactions - and its pre-eminence as the leading reserve currency is not threatened.

Now the biggest question facing the markets is whether the dollar's rally will prove enduring. The fundamentals appear favourable, but the sluggish rally, especially against the D-Mark, has led

some to wonder whether it has the momentum to keep going. What, however, caused it to turn in the first place? Stripped to basics, there were three main elements: improved international economic co-operation; the relaxation of monetary policy in Germany and Japan; and the improved performance of the US economy, coupled with a more credible policy backdrop including towards the dollar.

The issue was also redefined. It became increasingly clear that the focus of the problem lay more in the overvalued currencies and stagnant economies of Japan and Germany than in the weak dollar.

In the US, there were two crucial developments. The first was the emergence of a bipartisan consensus behind the desirability of a balanced budget. This helped convince markets that the US was serious about putting its economic house in order.

The second was the appointment of Robert Rubin as US treasury secretary. As the former senior partner of Goldman Sachs, the prestige Wall Street investment bank, he started with the advantage of having the market's respect and his subsequent performance added considerably to the credibility of the Administration's economic pronouncements.

Helped by the US's good economic performance, especially compared with Germany and Japan, he was able to achieve the considerable feat of overturning traders' deep-seated scepticism about the dollar. An important element in achieving this was a series of successful bouts of central bank intervention between April and August 1995 to support the dollar. These were instrumental in shifting market sentiment in favour of a stronger dollar, just as earlier failed bouts of support had convinced markets that the dollar had to go lower.

Mr Rubin, however, did not work his magic alone. The perilous state of the Japanese banking system convinced Japanese authorities that fiscal and monetary stimuli were necessary to haul the economy out of a deflationary spiral. On the monetary side, this required a weaker currency and lower interest rates.

Germany also shifted tack - the Bundesbank stopped making snide comments about US economic policy, continued to loosen monetary policy through the exchange rate and interest rates, and started calling for a stronger dollar.

As with Japan, this change can be traced to underlying

weakness in the domestic economy. In Germany's case, the need to boost economic growth through keeping exports competitive was given added urgency by the imperative of meeting the convergence criteria of the Maastricht treaty.

The dollar's turn, therefore, was in part a function of economics - Japan and Germany needing weaker currencies, and the US economy clearly outperforming. But policy also played a role - the fact that the largest three economies were all believed to want a stronger dollar gave traders and investors confidence to buy dollars again.

What of the future? A forecast, published by Consensus Economics, shows the market believes the dollar will be trading at DM1.538 and Y106.2 in a year's time, barely changed from current levels, although some influential forecasters are predicting levels of Y116.20 and DM1.60/70 before then.

As ever there are risks: renewed turbulence in the ERM, causing a flight to the D-Mark, or an economic upset in one of the three main economies, would probably suffice.

But even if most of the dollar's rally is behind it, especially against the yen, it is still easier to see it rising, rather than retreating.

■ Exotic currencies: by Philip Gawith

# Funny money comes of age

Demand for obscure currencies is growing as investment in developing countries rises

When Derek Saville started to develop Standard Chartered's emerging market currency business back in the early 1980s, it was known as the "funny money" desk.

Today it would be more appropriate to talk of big money. With mature currencies less volatile than in the past, banks are looking for new opportunities in foreign exchange. And rising trade and investment flows to developing countries have boosted demand for previously obscure currencies.

"Over the next few years 50 per cent of all the growth is going to take place in these markets," says Mr Saville, head of treasury global products at Standard Chartered in London.

Asia and Latin America have long been the emerging markets most active for currency trading, but there has been increased activity in east European currencies such as the Polish zloty and the Czech koruna, as well as the South African rand.

In terms of volume, trade in these exotic currencies remains small - figures are notoriously vague, but global daily turnover could well be below 5 per cent of that in the mature currencies. It is the trend, however, that is important.

Banks confirm that there is rising customer demand to trade these currencies and the signs are there for all to see - the increasing number of banks hustling for a piece of the business, the burgeoning volume of research produced, and the hot labour market for emerging markets talent.

Although exotics may still be on the margin, they are moving increasingly to the centre. There are days now when a currency such as the rand or Mexican peso can dominate dealing room activity, sometimes to the point that the explanation for movements in the "majors" can be traced back to developments in one of the exotics.

These currencies are also performing well when measured by the key benchmark of profits. Although volumes may be low, these are often handsomely compensated for by generous margins.

Steve Jennings, emerging markets strategist at Banque Indosuez in London, says: "If

you are the only bank that can provide a currency payment into Algeria, your reward is obviously going to be quite substantial."

While Citibank, with branches in 97 countries, is to some extent in a category of its own in foreign exchange, it will still come as news to many to learn that roughly half of its foreign exchange profits are now earned in emerging markets - approximately double the level five years ago.

At Standard Chartered, more than half of the foreign exchange profits in the London dealing room come from emerging markets.

Guy Whittaker, head of global foreign exchange at Citibank, says that in the 1992-95 period, the balance "shifted quite significantly" with a commensurate shift in resource allocation for the bank, both in regional centres and local currencies.

As in all markets, there is a trade-off to be had between liquidity and margins. While banks enjoy the fat margins associated with illiquidity, they also banker after the comfort of knowing that they can sell when they need to. Mr Jennings says: "We need more banks in on a fully-fledged basis to provide liquidity to the market as opposed to just their clients."

Whether the business will be as fizzy as some optimists expect is a moot point. Mr

Andy Siciliano, head of foreign exchange and interest rates at SBC Warburg, comments: "Emerging markets will be good, but nowhere near anybody's expectations. More revenue will come, but it is not going to be an easy stream."

The 20 per cent fall in the South African rand earlier this year, after a long period of stability, was simply the most recent example that some of these markets remain volatile.

Whether new entrants have the stomach or the nous for the long haul also remains to be seen. Mr Saville is sceptical about their "pain barriers." "They may have deep pockets, but once they realise the risks, the problems... The culture is not there yet. It is very important for the culture among the whole bank to be there."

For now, distinct differences remain between exotic and mature currencies. Aside from factors such as liquidity and margins, exotics tend still to be influenced by domestic political and economic events, while mature currencies respond more to shifts in monetary policy in the major economies, not simply their own.

There is also less speculation, often because it is prohibited. Mr Saville's advice is simple: "Try and get as close to the central banks and policy-makers as you can, and listen very carefully to the advice you are given, because they mean what they say. They don't deal in soundbytes."

■ Currency strategists: by Graham Bowley

# Crystal balls are often wrong

Clear thinking, acute writing and strong conclusions are qualities valued by investment managers

With big salaries, fast cars and, for those at the top of the profession, a guru-like status whose scribbles attract fame across the City of London, Wall Street and beyond, the star of the foreign exchange strategist has risen far in recent years.

But strategists are far from infallible. Indeed, most are often wrong, especially on the most heavily traded currencies which are the ones that matter most.

"We have never met anybody who has consistently predicted the major trends in currencies," says Tony Baverstock, treasurer at Clerical Medical, the life assurance group.

Investment managers, whose desks daily groan under the weight of the industry's outpourings, may therefore ask why they should take note?

The answer is that their work is valued not for the accuracy of their forecasts but for the wide variety of ideas they are able to generate and which investors can use as a sounding board for their own policies.

"We do find them useful just because they are looking at things from a greater research base. We can't replicate that research base," says Tim Swadlow, portfolio manager of currencies and international fixed income at AMP Asset Management.

Paul Abberley, head of fixed income at Lombard Odier Investment Management Services, says: "The key thing we want to know is what is driving currencies at any one time. There are things which we can do ourselves - for example forecast - but large houses can see the current flows which we cannot."

Banks and securities houses have set up strategy departments in the hope of winning business with investors, calculating that a good currency research service will help cement a longer term relationship with potential clients.

With little profit left in purely transactional currency trading, foreign exchange departments have become increasingly client focused and research is viewed as a critical marketing tool.

"People are finally realising that in order to have good client relations with big institutions, serious research is highly valued," commented one analyst.

The result has been strategy and research departments which at times have seemed an awkward fit within banks and securities houses - not least since unlike other areas of the organisations their actual value-added is hard to quantify.

Departments have come into existence whose sole raison d'être has at times seemed simply to be a public relations office - winning and dining potential clients and acting as pundit on television and in the press.

But this strategy does appear

to work. Investment managers are appreciative of strategists' work and will often award business according to the standard of research. At the same time they recognise that the output varies greatly in quality.

"We have a system where we rank houses by a number of attributes, where research is the highest. This system determines how we distribute our business," says Mr Swadlow.

What are the qualities that are valued in strategists' work? Clear thinking, acute writing and strong conclusions, it seems, come top of many investment managers' lists.

"A good analyst is someone who is able to take the theory and apply it to the market in a convincing way. There are very few economists who are able to do that and far too few are willing to put their reputations on the line," says Mr Moulder.

But as well as good analytical abilities, how seriously a strategist's views are taken will often depend crucially on who he or she works for. Customers think the strategists are seeing big currency flows, they will want to know their views.

"The bigger the house the better the global vision," says Mr Moulder.

Mr Abberley, Mike Rosenberg, head of fixed income and currency research at Merrill Lynch in New York and author of an authoritative book on currency forecasting, is critical of what he calls "I-can't-be-wrong forecasts" - forecasts that make no strong predictions.

He thinks currency strategy is inseparable from economic analysis. "A good framework must be based on economics so you can't separate currency strategy from economics," he says.


But finally, however clear or comprehensive the analysis presented by strategists, investors realise that in the end it is their money which is at stake.

"They therefore treat most strategists' work, in spite of the big salaries, fast cars and, in some special cases, the guru-like reputations, with a certain healthy scepticism."

"There is nobody we pull out from the pile and say that is a person who gets it right in the long term," says Mr Baverstock. "You finally have to take a punt yourself and decide where to invest your money."


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